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ESSAYS, MONOGRAPHS, AND CASES.

Fibrous Tumor of the Uterus; Excessive Hæmorrhage; Removal by Excision. By B. FORDYCE BARKER, M.D., Professor of Midwifery, &c., in the N. Y. Medical College; Physician to Bellevue Hospital, &c.

Mrs. —, aged 46, mother of three children, the youngest of which is 13 years old, has for three years past been suffering from occasional attacks of uterine hæmorrhage, some of which have been exceedingly severe. During the past year she was principally under the care of Prof. Trousseau, of Paris. In September, 1856, Dr. A. Hamilton Smith, her usual medical attendant, was present at a consultation in Paris, when her case was carefully examined by MM. Trousseau, Velpeau, and Nelaton, and the result of their deliberations, as stated to me by Dr. Smith and the patient herself, was that the hæmorrhages were due to a non-pedicated fibrous tumor of the uterus, which was not susceptible of removal by an operation, but which possibly might eventually become pediculated. I first saw Mrs. — Dec. 28th, 1856. She had returned from Europe a few weeks before. Menstruation commenced the 22d, but there was no profuse hæmorrhage until the 26th, when it became very abundant. She had vainly endeavored to arrest it by the use of alum covered with cotton batting in the vagina, the local application of ice, and by various internal remedies recommended to her by Prof. Trousseau.

The numerous prescriptions which he had made out for her, comprised almost every known variety of styptic and astringent agent in use, and was a convincing proof of the severity of her former attacks. Her condition, when I first saw her, was such as to excite the gravest apprehension. Her countenance was sallow, pinched, and haggard, her respiration hurried and catching, her pulse small and sharp, 116 per minute, the surface cool and moist. She complained of severe pain in the head, ringing in the ears, and a sense of "suffocating oppression at the heart." On making a vaginal examination, the uterus was found to be large and heavy, the os tincæ very patulous, through which the hot blood was steadily trickling into the vagina. I at once proceeded to tampon the cervix and vagina. Soaking a quantity of what is known as "jeweller's batting" in a saturated solution of alum, successive layers were first inserted into the cervix and then into the vagina, until it was packed as firmly as possible. She was directed to take a teaspoonful of the following prescription every hour :

R.	Acid, Gallic.	
	Pulv. Acaciæ G.	aa ʒij
	Tr. Opii Camph.	ʒss
	Syr. Limonis,	ʒjss
	Aq. Puræ,	ʒij

M.

On visiting her three hours afterwards I found the tampon completely afloat in the vagina. I again filled the cervix and vagina as before, introducing all the batting it was possible to get in.

Dec. 29th. The patient had slept none during the night. She had saturated six napkins since 2 A. M. The tampon had seemed to control the hæmorrhage for a few hours, but now it did not apparently half fill the vagina, which had become very sore and tender to the touch from the irritation of the alum. I now tamponed the cervix as completely as possible with a piece of sponge, and then filled the vagina with the Kite tail tampon.

4 P. M. Hæmorrhage still unchecked. She has taken in twenty-eight hours, ʒij of gallic acid. I again filled the vagina, without removing the batting already in, and prescribed the following :

R.	Ol. Terebinth	
	Syr. Limonis	- - - - aa ʒij
	Pulv. Acaciæ	- - - - - ʒss
	Ol. Cassiæ	- - - - gtt. iv

Misce. Two tablespoonfuls every half hour.

9 P. M. There has been no hæmorrhage since seven o'clock, when

a dry napkin was applied to the vulva. There has been one copious discharge from the bowels, attended with pretty severe colicky pain, but no strangury. From this date until the morning of Jan. 2d, there was no more hæmorrhage, and efforts were made during this period to restore the general powers of the system by the use of stimulants, beef tea, and codine, the only preparation of opium which she tolerated well.

On the morning of Jan. 2d, I found that a moderate amount of hæmorrhage had again appeared, and the decoction of Matico was ordered :

R.	Fol. Matico	-	-	-	-	ʒij
	Aq. Bullient	-	-	-	-	ʒi

Misce. A wine glassful thrice a day.

Before she had time to procure the prescription from the druggist, I was again summoned in great haste, the hæmorrhage having become very profuse. She was previously so extremely anæmic, that the loss of even an ounce of blood was fearful. I at once plugged the vagina with the batting soaked in the decoction of Matico, and directed an ounce of the decoction with thirty drops of the Tinc. Secale Cornu. to be taken every hour. She had no more hæmorrhage from this time, but for many days it seemed impossible to rally her from the collapse which followed. The countenance was swollen and puffy, the mind confused and wandering, the respiration hurried, panting, and very frequent, the pulse varying from 120 to 140, and the surface cold and clammy. Friction and dry warmth to the extremities, beef tea, brandy, and iodine were assiduously kept up, but I believe she would have succumbed had it not been for a suggestion made by my father, Dr. Barker, of Maine, who was then visiting me. He proposed to me "to keep what little blood there was circulating in the system in the vital organs." On this hint, I at once acted. I at first compressed both brachial arteries with my thumbs, and the breathing soon became slower and easier, and she begged me to continue the pressure. I then arrested the circulation so far as possible through the brachial and femoral arteries, by means of compresses and bandages, and in a few moments she fell asleep.

On account of the difficulty of breathing, she had not slept before, except for a moment at a time, for nearly three days. So great was the relief that she derived from this expedient, that she kept the bandages on for three nights and two days, only having them loosened occasionally for a few moments, to have the circulation restored in the extremities by friction, &c. It is unnecessary to detail the vari-

ous measures resorted to to bring up the system, by proper nutrition, stimulants, and tonics. Jan. 17th.—Dr. F. U. Johnston was called in consultation, and made some valuable suggestions to facilitate this end. As soon as her strength would permit, I made a careful physical exploration, in order to determine the exact pathological condition which had given rise to these hæmorrhages. The os was found very much closed as compared with the state during the hæmorrhage. The uterus was greatly hypertrophied, measuring by the sound six inches and three-fourths. The point of the sound was felt through the abdominal walls just at the umbilicus. A catheter was passed into the bladder, while the sound remained in the uterus, and by a careful manipulation, a tumor in the interior of the latter was clearly defined, commencing just above the junction of the cervix. No change of the posterior wall, except enlargement, could be detected, by a careful examination through the rectum. The diagnosis was a submucous fibrous tumor of the anterior wall of the uterus. The hæmorrhages were regarded as conclusive evidence of the submucous development of the tumor. It now became an important point to determine whether anything could be done to avert the danger from these recurring hæmorrhages. It was evident that she could not survive another such attack, or anything like it. Each recurrence left her less and less able to resist its effects, while the severity was constantly increasing, the tumor inducing a development of the vascular system and mucous surface of the interior wall, analogous to that which occurs in pregnancy. The possibility of removing this tumor, the source of the evil, became a matter of serious consideration, and after maturely weighing the whole subject, it seemed to me not only practicable, but as the only resource which offered to prevent an inevitable fatal termination. Dr. Johnston was again called in February 9th, and the whole scheme, with the arguments pro. and con. were laid before him. Dr. Johnston was satisfied as to the feasibility of the operation proposed, but he was doubtful as to the capability of the patient to endure the shock of such an operation. By his advice Dr. Mott was also consulted, but the patient, from a delicacy easily understood, declined to submit to a personal examination from others, and he was only able to give an opinion on general grounds. Dr. Smith, in whose opinions she placed great confidence, based on a long experience of his medical tact and judgment, advised the operation, as offering a chance for recovery which she could not otherwise have. The first step in the operation was to effect a complete dilation of the cervix uteri, by means of compressed sponges, gradually increasing

in size. This required twelve days before it was satisfactorily accomplished.

The operation was performed on Monday, Feb. 23d, with the efficient aid of Dr. Johnston and two reliable nurses, and Dr. Charles A. Budd, of whose experience and judgment in administering chloroform I had before had convincing proof. The patient was first brought completely under the influence of the chloroform. She was then placed on her abdomen, across the bed, before a strong light from the window. The perineum was then lifted up and kept in this position by the curved elevator of Dr. Sims, while the nates were separated as widely as possible by the hands of the nurses assisting. A double hook was then inserted into the posterior lip of the cervix uteri, raising it up so as to fully expose the tumor within the cavity of the uterus. A second hook was then passed into the substance of the tumor. This was effected with some difficulty, as it had a cartilaginous hardness, very distinct from the surrounding tissue of the uterus. I had three knives, with long stout handles, made expressly for this operation; one with a curved, cutting edge, and the others were curved on the flat sides—one with an edge looking to the left, to be used with the right hand; the other with an edge looking to the right, to be used with the left hand. First, an elliptical incision was made through the mucous membrane covering the tumor; then, with the other knives, the tumor was dissected out from the tissue of the uterus. Not a tablespoonful of blood was lost by the operation. The tumor was two and a half inches in length, about an inch and a half in breadth, and of a dense fibrous structure. Dr. Johnston and myself both carefully examined with the finger to ascertain whether any portion of the tumor remained, but finding none, and there being no hæmorrhage, the patient was again replaced in bed.

She soon rallied from the influence of the chloroform, and the system exhibited for several hours no evidence of a severe shock. After staying with her about three hours, I left her perfectly comfortable. I returned after an absence of less than an hour, and found that the shock was just becoming apparent. The countenance was anxious the breathing hurried, the pulse rapid, 124, and the surface covered with a cold sweat. On examination, I found a good deal of oozing of blood from the vagina. I at once gave her sixteen drops of Majendie's solution of morphia, and then proceed to fill the *cavity of the uterus* and the vagina with batting, packing as closely as possible. This was allowed to remain but a few hours, as I felt that great danger was to be apprehended from an extensive suppurating surface in

the cavity of the uterus. Reaction gradually came on, and although I did not feel safe to leave her, yet I had the pleasure of seeing her pass the greater part of the night in quiet and tranquil sleep. Dr. Johnston continued his attendance with me for some days subsequent to the operation. A very moderate sero-sanguinolent discharge came on the second day after the operation, which continued for sixteen days, and then entirely ceased. Her convalescence was rapid. She gained flesh and strength, and on the twenty-sixth day after the operation she was able to ride out. She regarded her general health as better than it had been for some years previous to the operation. There was no appearance of menstruation in the months of March or April, but the function was again reëstablished in the month of May. For some days it was normal as to quantity, but gradually it assumed a hæmorrhagic character, and profuse flooding came on. Being out of town, my friend, Prof. Metcalf, was called in, and found the hæmorrhage exceedingly difficult to arrest. On my return, May 27th, Dr. Metcalf had the hæmorrhage well under control, although it had not entirely ceased. On a careful examination, I became satisfied that the hæmorrhage was due to imperfect cicatrization of the wounded surface. By means of a uterine tubular sound, I introduced into the cavity of the uterus a portion of the following ointment :

R.	Zinci Sulph.	ʒi
	Ung. Stramonii	ʒiij
	Ung. Cetacei	ʒi
M.		

Two applications of this ointment entirely arrested the discharge. She menstruated normally in the months of June, July, and August. With the exception of a pretty severe and obstinate bowel complaint, her health has been most satisfactory during the Summer.

I hardly think there can be a doubt as to the propriety of the operation performed in this case. The patient's life must have inevitably been destroyed by the hæmorrhage which occurred in connection with menstruation. The method adopted by the removal of the tumor was unique, but it was the only plan which seemed practicable and safe. The operation by enucleation, an opening being made either by caustic potass, as practised by Prof. Simpson, or by the knife, after the method of Amussat or Maisonneuve, was entirely out of the question. The case also differed from that reported by Prof. Pancoast, of Philadelphia, and the one reported by Mr. Teale, of Leeds, in that the tumor was entirely within the cavity of the

uterus. Neither does the case bear any resemblance to those reported by Dr. Atlee, of Philadelphia, either as regards the motive for operating, or the plan of operative procedure. Mr. Grimsdale, Surgeon to the Lying-in Hospital, Liverpool, in an article "On artificial enucleation of Uterine Fibroid Tumor," published in the January number of the *Liverpool Medico-Chirurgical Journal*, and quoted in the last number of *Braithwaite's Retrospect*, gives the following conditions as necessary to justify the operation for enucleation.

1. There must be present some symptom, as hæmorrhage, intractable, and of so serious a nature as, if allowed to continue, would almost inevitably sooner or later destroy life.

So long as the tumor is quiescent, attended by no formidable symptom, it would manifestly be highly improper to propose any interference, that might of itself seriously compromise the patient's safety; but in the presence of frequent and exhausting hæmorrhages, inevitably fatal in their tendencies, it becomes a question of anxious interest, to both surgeon and patient, whether or not any operation can afford a fair prospect for relief.

2. The tumor should be a single one, as may be generally known by its globular form.

On this point I wish to correct a misconception I believe to be prevalent, viz: as to the infrequency of single fibrous tumors of the uterus. Most writers on these subjects vary in general terms, or lead their readers to infer that it is quite the exception to find a solitary tumor of this kind; in the great majority of cases, say they, these tumors are plural, or even in considerable numbers. Now in opposition to this, Mr. Pollock's records of post mortem examinations, at St. George's Hospital, show that in more than one-half of his cases the tumors were single.

3. The tumor should be surrounded by hypertrophied uterine tissue. When such is the case, we can always by auscultation detect an uterine bruit more or less loud, and I should be unwilling to operate unless this was present.

4. The more the tumor bulges inward towards the uterine cavity the better.

5. A time should be chosen, if possible, at which the system shall somewhat have rallied from the effects of the antecedent hæmorrhages.

These conditions all existed in the present case, and were equally applicable to the operation performed.

I should mention that the hypertrophy of the uterus has in a great

measure disappeared since the removal of the tumor. Aug. 7th, the uterus measured by the sound three and a half inches. The patient is also entirely relieved from some symptoms which had been very troublesome for nearly three years, viz : bearing-down pain, a desire for frequent micturition, and a "jarring faint pain" in the uterine region when she walked or rode in a carriage.

In conclusion, I should not do justice to my own feelings, if I omitted to acknowledge my indebtedness to Dr. Johnston for his efficient aid and valuable suggestions during the treatment of the case.

70 UNION PLACE, August 27th, 1857.

Case of Rupture of the Small Intestine and Peritonitis, from a Slight Blow on the Abdomen. By THOMAS TURNER, M.D., Resident Physician of Kings County Hospital.

M. K., aged 35, the night watchman of the hospital, a stout, healthy man, with the exception of a chronic discharge from a diseased condition of the lower extremity of the left femur, received an injury accidentally, in a playful scuffle with a friend, which resulted in the following symptoms, a fatal termination, and the post mortem appearances to be described. The manner in which he received the injury, as related by himself and corroborated by persons who witnessed it, was as follows : Two young men were walking before him. He stepped between them and put an arm around each to raise them from the ground, when one of them suddenly raised his knee, striking him with it a blow in the left inguinal region. Dr. Farley, one of the House Staff, saw him immediately after the accident, and found him suffering great pain in the abdomen and back, vomiting, with weak pulse, and the cutaneous surface covered with a profuse, cold perspiration. He found, on examination, a tumor in the left groin, having the appearance of hernia. The man had not, to his knowledge, had hernia previously. With some difficulty the intestine was replaced in the abdomen, but as it was found to descend again, and the symptoms of severe nervous shock continuing, I was called in to see the patient. The hernia was easily pushed back, and retained by slight pressure of the fingers of an assistant over the internal abdominal ring. He was ordered sulphuric ether and laudanum. After a few doses, vomiting ceased, reaction came on, and he expressed himself as feeling better, but stated that his "belly was burst, and he was certain he would die."

About six hours after the accident, being again called to see him, I found him in the same anxious and prostrated condition as at the previous visit, with much pain when he was moved, rigidity of the abdominal muscles and tenderness on pressure of the lower part of the abdomen. He said that he had been very thirsty and drank large quantities of iced water, although he had been warned not to do so, and had vomited freely. He complained of severe pain in the back and inability to move himself in the bed. There was no loss of power of motion or sensibility in the limbs. *Tr. opii* in combination with sulphuric ether was given him freely through the night, and he dozed a little and was tolerably free from pain.

August 15.—His condition was becoming rapidly worse, the anxious expression of countenance more marked, pulse 130, copious cold perspiration and greater tenderness of the abdomen, with slight tumidity and tympanitis. Dr. C. E. Isaacs, of Brooklyn, Consulting Physician of the Hospital, was called, and gave his opinion that there had been, most probably, rupture of the intestine at the time of the accident, and advised, for treatment, the use of opium. Two grains of opium were given him every three hours, and had the effect of allaying the severe pain, but without any amendment of the other symptoms. He continued to get worse, complained he could not see surrounding objects distinctly. As his end approached, he became slightly delirious, and died on the evening of the 16th, fifty-eight hours from the time he received the injury.

The autopsy was made eleven hours after death. Where the blow had taken effect in the groin, a slightly ecchymosed condition of the integument was perceptible about the middle of Poupart's ligament and extending from two to three inches above it. On opening the abdomen, there was found to be general peritonitis, the small intestines much distended with gas, glued together by recent exudation, and collections of pus between the folds of intestines. Immediately beneath the ecchymosed spot in the left inguinal region, the small intestine was adherent to the wall of the abdomen. At the point where adhesion had taken place, there was a transverse opening one inch in length through the intestine on the convex side, or the side opposite the insertion of the mesentery. The edges of the opening were swollen and everted, and had the appearance of a recent wound, and were unlike those of a perforation caused by ulceration. The point at which this rupture had taken place was ten feet from the cæcum. The mesentery opposite the opening, for about one inch, was swollen, dark and traversed by enlarged vessels. The large

intestine contained a considerable quantity of hardened feces. The stomach was much distended, and in it were 3xxij of a brownish fluid. The mucous coat was of a dirty ash color, and around the cardiac orifice were patches of bright red spots of effused blood. With the exception of some congestion, or very slight pathological changes, all the other organs presented a healthy appearance.

It is difficult to understand how the intestine, if it were in the normal position, could have been injured so seriously by so slight a cause. If the man had had hernia previously to the accident, the solution of the difficulty would be much easier, for a blow falling suddenly on a knuckle of distended intestine in the inguinal canal might easily rupture it in the manner described. But the patient was intelligent, and was positive that he never had had any tumor in the groin or other symptoms of hernia. Could the resistance of the hardened feces in the colon have had anything to do with the rupture?

Flatbush, N. Y., Aug. 20th, 1857.

A Case of Sciatica Cured with Strychnia. By O. C. GIBBS, M.D.,
Frewsburg, Chataugue county, N. Y.

The disease usually denominated Sciatica is often an extremely painful affection, and, what is worse, is notoriously obstinate of cure. The case we are about to relate, is interesting from the promptness with which it yielded to strychnine, after a failure of a great variety of other remedies.

March 6th, 1857, we were called to see Mr. H., aged about 45 years. He was laboring under extreme pain in one hip and leg. The pain was particularly severe between the great trochanter and the ischium, extending thence downward upon the outside and back of the thigh to about half way between the knee and ankle, where the pain was nearly as severe as in the hip. There was no swelling or redness of the affected parts. The patient was confined to the bed and could lie only upon the well side. The only relief he could get from this position was by turning upon his face and standing upon his hands and the knee of the well leg. With the exception of a slight billious tinge to the complexion and a little acceleration of the pulse, the general health was not materially affected. Slight pain and tenderness were constant, but severe pain occurred only in paroxysms.

The patient stated that he had a similar attack about three years since, which proved extremely obstinate, resisting all treatment for a

year-and-a-half, but finally passed gradually away while taking the tincture of colchicum and the ammoniated tincture of gum guaiac. At that time he was in the care of a very intelligent and skilful physician, my friend Dr. Axtell, now of Jamestown, N. Y.

He had been suffering from the present attack about two weeks, during the most of which time he had taking regularly the tincture of colchicum and the ammoniated tincture of gum guaiac. Looking upon the case as more neuralgic than rheumatic, we gave him a cathartic containing a small portion of calomel, and ordered it to be repeated every second day. We also ordered two grains of sulphate of quinine and one-fourth of a grain of sulphate of morphine, to be given every six hours. This prescription was continued for a week without benefit. We now ordered the subcarbonate of iron in half-drachm doses, extract belladonna in half-grain doses, and oil turpentine in doses of fifteen drops, each to be repeated every six hours. This prescription was continued for a week, also, without benefit. We now ordered the tincture of cimicifuga in drachm doses, the iodide of potassium in two grain doses, and the oil of turpentine was continued as before, each every six hours. This treatment was continued also for a week, apparently without benefit. We now ordered small doses of calomel with Dover's powders, also tincture of colchicum in appropriate doses; we also ordered blisters over the great trochanter, and at the seat of pain at the middle of the leg, the cuticle to be removed, after blistering, and sprinkled with morphine. It may not be amiss to state here, that we had not previously blistered because, in the previous attack, he had been blistered and cupped repeatedly without benefit. The calomel was continued until the system was slightly under its influence, when it was discontinued and the iodide of potassium substituted. This plan of treatment was continued for a week or ten days, without any improvement; in fact the patient seemed worse in general health, and the paroxysms of pain were more severe than when treatment was commenced. The patient became impatient and restless under treatment, and, for some time, had been in the habit of using opium at his or his wife's discretion, as the only means of procuring relief from pain.

We now took two grains of strychnia in crystals and put it with two ounces of water, slightly acidulating the water with sulphuric acid. We also took four grains of podophylline and five of sulphate of morphine, rubbing them up with sugar and dividing into twenty powders. We ordered thirty drops of the solution of strychnia, also one of the powders, to be taken each three times a day. The patient

had no severe paroxysms of pain after this, and within three weeks from the time of commencing the strychnia he went down the Alleghany and Ohio rivers as a pilot on a lumber raft, and up to the present time he remains free from a return of the affection.

We have no recollection of ever having seen strychnia recommended in this form of disease. The remedy was held under consideration quite early in the treatment, but failing to find authority for such administration, its use was postponed until repeated failures seemed to justify a trial of any remedy that theoretically promised benefit. It is, of course, uncertain whether the remedy in this case stands in relation to the cure as cause to effect. Subsequent observations can only establish this; for one case, we are well aware, is nearly valueless in establishing the remedial powers of any article over any disease.

On Scarlatina. A Clinical Lecture delivered in Paris by M. TROUSSEAU. Translated from the *Gazette Hebdomadaire*, for the MONTHLY.

Scarlatina is, of all the exanthematous and contagious pyrexias, the most variable in its forms and characteristics. It is also the most variable in relation to the danger the patient undergoes. Variola, whether benignant, discrete malignant, or confluent, is still variola; you can always recognize it by its special characteristics; it always shows itself exteriorly by appearances which are proper to it, whether modified or not, as it so often is by vaccination or by a preceding variola. Scarlatina, on the contrary, may not appear, and frequently is not apparent upon the skin, yet is none the less severe on this account. Rougeola almost always preserves its characteristics, or very nearly so. Its diagnosis is ordinarily simple, almost always easy; its complications generally foreseen, take place at a certain time, upon a certain day which the physician can foretell. Scarlatina, as we shall see, presents complications most usually unsuspected, which the physician cannot know beforehand, even at a period very near their appearance.

This disease is sometimes so light, that one of the greatest observers of the past, Sydenham, said of it, in speaking of several epidemics he had seen: *Vix nomen morbi meretur*, it hardly deserves the name of disease. But Sydenham has given in his writings only the results of his personal experience, and as he had never seen it in its severe form, he treated scarlatina with that sort of disdain which he

was far from having for rougeola or variola. Now, those writers, whom it is proper for us to consult, tell us that for many years the cases of scarlatina they saw were so mild in character that they never saw any body die from it.

Graves, in his clinical lectures, states that in 1800, 1801, 1802, 1803, and 1804, scarlatina ran through Ireland and was very fatal ; that from 1804 to 1831, those physicians who had found it so very destructive during the years we have already cited, no longer witnessed a death from this affection, which had become singularly mild. In 1831, a new epidemic of severe scarlatina appeared in Dublin and vicinity, and in 1834 this disease spread over Ireland a sadder gloom than did the typhus a few years later, or the cholera two years before. When I commenced my medical studies at Tours, M. Bretonneau told us that scarlatina, which his masters had always spoken of as a severe disease, had at first appeared to him as a very mild disease. He said that from 1799 to 1822, at which time he made these remarks, he did not recollect to have seen a single person die from scarlatina, and he had practised for a long time in the country before he became physician-in-chief of the hospital at Tours. Since then he had seen numerous cases, both in hospital and private practice, and up to that time this exanthematous pyrexia was to him the mildest of all. But in 1824 an epidemic broke out in Tours and its vicinity. In less than two months M. Bretonneau saw the sick die off with such a startling rapidity, that, opposed as he was to the doctrines of Broussais, then in high estimation, he accused the treatment pursued by his confrères, who bled excessively (*à l'outrance*) in order to moderate the angina and the inflammatory fever at the commencement of the attack ; soon, coming himself in contact with the disease, he learned that he could not always strive against it with advantage, a considerable number of his patients succumbing. Then, he who before 1824 had treated scarlatina so lightly, learned to class it with the plague, with typhus and cholera.

For more than a quarter of a century, then, scarlatina reigned epidemically without presenting any gravity. Suddenly its character changes ; it strikes those whom it attacks most cruelly. It is not thus with rougeola, it is not thus with variola. Doubtless the epidemics of rougeola and variola are sometimes very severe, but they are never so generally light or severe as those of scarlatina. For scarlatina the epidemic type is more dominant than for the others, and according to the nature of this type the disease is extraordinarily simple or singularly severe.

What is the duration in scarlatina of the *period of incubation*? In an exanthematous fever, nothing is more difficult to fix when the virus is not directly inoculated, nor is there anything more variable than the manner in which this question has been decided. For scarlatina, some say that the incubation continues four days; others eight, and others again fifteen, twenty, and thirty days. In a word, only hypothetical data have been given, because those who made them would not see that no certainty was possible unless a precise date of the commencement of the incubation was assigned. But one pyrexia only can furnish us this precise time, *variola*, because it is inoculable, and since this inoculation has been performed for a half a century and very extensively throughout Europe. We have been able to ascertain positively the time which intervenes between the moment when the virus is introduced under the skin and the manifestation of the disease. In this manner the duration of the incubation of *variola* has been fixed. It is not so with the other exanthemata, which have not been inoculated, and which perhaps are not inoculable. For then, in default of inoculation, the moment the individual was placed in contact with another person affected, is taken as the point of departure for the incubation; but contact and incubation are two different things. For example, five hundred sheep are placed together in the same park, or in the same sheepfold, one of them takes the rot, an eruptive disease in animals, analagous to *variola* in man. Fifteen or twenty days later seven or eight more sheep are taken, and each day successively a few fall sick; four months would have to pass before the last would be attacked. Yet all these animals, shut up in the same place, breathing a confined air, pressed against each other and wet by pus from the sick, were not taken at the same time; some were attacked sooner, others later. Would you conclude from this that the duration of the incubation was longer in some than in others? Not at all, for inoculation performed the same day in all, the disease would also show itself the same day in all without exception. Contact and inoculation, then, are essentially two different things. By inoculation the virus is necessarily introduced into the economy; by mediate or immediate contact, the absorption of the virus does not always take place. When this absorption once takes place, the *evolution* of the disease takes place in a certain determined time, the same, within a few hours, or a few days, in all.

Well, that day when scarlatina shall be inoculated, the duration of the period of incubation will be fixed for it, as has been done for *variola*, until then it is impossible to determine it. In a family

composed of ten persons, five weeks will sometimes elapse before all will be taken. It will be the same with them as with the sheep of which I have just spoken. It does not result from the fact that they have not come in contact, but that they have been in different conditions to be effected by it. It is the same as with syphilis. The syphilitic virus methodically inoculated produces after a certain number of days the evolution of a specific vesicle, and this number of days is very nearly known. Several persons may have connection with a diseased woman, some would take the disease immediately, while others having relation with her several days in succession, would become diseased only the last day. This happens from the fact that the first were in physiological or pathological conditions such that from the first contact the virus was inoculated, while the second were not in this condition till later.

Finally, gentlemen, the period of incubation in scarlatina, that is to say, that period comprised between the precise time of the inoculation of the scarlatinous virus, and the precise period of the first manifestations of the disease, that period in scarlatina, cannot be rigorously determined. The same remarks are applicable to rougeola, they also apply to variola when it is not directly inoculated.

In scarlatina the period of invasion is also undetermined. You know how it occurred in variola, and you can affirm that in regular cases of small pox, when you see the eruption appear forty-eight hours after the commencement of the invasion, the variola will be confluent, because it is at the end of the second day, or at the commencement of the third that the pustules appear in this form of the disease; if the pustules appear about the fourth day, you will diagnose a discrete small-pox. Seldom is the eruption of the confluent variety put off till the fourth day; seldom does that of the discrete form appear as soon as the second day. These characteristics of variola which are almost positive, give you the ability of immediately saying whether the disease will be severe or mild. Let me be well understood, I speak only of regular variola, and not of modified small-pox or varioloid, the characteristics of which are not the same.

In scarlatina the progress is different. In some patients the eruption appears during the first four or five hours of the fever of invasion, rarely later than the first day. It is still rarer, except under complications, that it is deferred to the second day, and for the same reason it is still rarer that it appears only until the third day. Although a few physicians believe that they have observed this appear-

ance as late as the third day, I repeat it, that this fact is extremely rare. I do not deny its possibility in an absolute manner, according to my belief, however, it is because the attention of the patients was not called to it, or because it was not sought for in a great number of cases. In general, it is upon the face that we first look for the febrile exanthemata, because it is there that it first shows itself. It is so for rougeola and variola, but it is not so for scarlatina. In this disease it is more particularly upon the body, upon the fore arm, upon the belly, or in the folds of the thighs that the eruption first appears, so that it can exist twenty-four to thirty-six hours before it makes its appearance upon the face or neck. We may think that it only commenced then, when in reality it had existed some time. But when we are informed of the progress of the disease, this error is easily avoided. In fact the period of invasion in scarlatina is extremely short.

The *phenomena which characterize it* are ordinarily a high fever with or without a previous chill, most frequently this chill is absent. The frequency of the pulse is considerable, more so than in the other febrile exanthemata. This fact is important, for in studying scarlatina in its elements, in speaking of scarlatina without eruption we shall see that under a good number of circumstances we shall make out our diagnosis of this disease by the single consideration of this extreme frequency of pulse, which is not found in the other affections which may be confounded with scarlatina in part *effaced*, if I can make use of this expression. To this fever is added cephalalgia, a general *malaise*, anorexia, vomitings, diarrhoea, oftentimes very abundant. Almost always from the moment that the fever appears, the soreness of the throat also appears, so that from the commencement of the affection, before many hours have passed, the patient complains of pain in that region, he speaks of it as the most prominent symptom of all he feels, and it is to that he calls your attention. This phenomenon is a very important one to be studied, because we may be deceived by it, for this angina may be mistaken for a simple angina, and an improper treatment be adopted, or at least one insufficient for a malignant scarlatinous angina. The tongue presents the first day nothing particular, it is feverish—that is to say, covered with a fur a little slimy, slightly red at the point, and upon the edges, but upon the palate a deeper red is observable and in some cases already presenting a dotted appearance. This redness is very marked upon the tonsils, which are slightly swollen. This redness, this dotted appearance of the veil of the palate, of the

tonsils without marked tumefaction, accompanied with severe pain and intense fever, should put you on your guard, especially when an epidemic of scarlatina prevails, and should cause you to suspect a scarlatinous angina.

When scarlatina is malignant, the symptoms take another form. The frequency of the pulse is still greater, reaching as high the first day in the adult as 130, 140, 150, 160 pulsations, even before the eruption has appeared upon the skin. At the same time the nervous system becomes affected, showing itself by a great agitation, or by a sleeplessness which nothing can overcome, almost always by a sub-delirium when the patient is left to himself. These are symptoms very rare in simple sore throats, very rare also in the commencement of other febrile diseases. From the first day, from the first hours, malignant scarlatina announces itself with all its malignancy, and this malignancy may be such that the patient succumbs before twenty-four hours pass.

I was called by my friend, Dr. Bigelow, to see a young American girl in a school in Paris. She had been affected since morning by an alarming delirium, she had an intense fever, and incessant vomitings; the pulse was so frequent that it could not be counted, the skin was remarkably dry. These phenomena caused me to say, when we reached the bedside of the patient, that it was scarlatina, and in fact, although nothing else demonstrated its existence, my diagnosis was confirmed by the presence of the characteristic eruption upon another young girl of the same school, where an epidemic of scarlatina prevailed. Our patient died before the end of the day.

In 1824, at the commencement of that disastrous epidemic which broke out in Tours, of which I have spoken, we saw, with M. Bretonneau, a young woman die in less than eleven hours, with terrible symptoms, delirium, excessive agitation, extraordinary frequency of pulse, and nothing indicated scarlatina to us, excepting that we were in the midst of an epidemic, and that many persons in the family of this young woman had had it.

Beware then, when in the midst of an epidemic of scarlatina, when especially persons around a patient to whom you have been called have already been attacked by it; beware of those nervous symptoms which show themselves thus at the commencement of disease. Almost always they announce a malignant scarlatina, and this almost always kills with an astonishing rapidity.

I dwell upon this point because it can give rise to the most serious errors in diagnosis; because it can give rise to faults in prognosis,

most serious to the reputation of a physician. Do not forget these precepts, and when you find yourself in presence of the symptoms of which I speak, be reserved, for these symptoms may terminate rapidly in death ; they seldom show themselves so severe in rougeola, and never in variola.

In scarlatina, then, there is an uncertain period of incubation, a very short period of invasion, after which comes *the eruption*. This new period has a duration not as clearly determined as it is in rougeola, and especially as it is in variola, in which it is so easy to calculate it. Commencing from the first day of the disease, the eruption of scarlatina is sometimes apparent the twelfth and the fourteenth day, although ordinarily it begins to disappear towards the eighth. In the simplest cases it continues from five to eight days. What are its characteristics ? When you consult your books, it would seem from them that a physician should not hesitate in making out his diagnosis. Rougeola, says one, consists in an eruption of small, isolated spots, of irregular form, leaving between them intervals of white skin. Variola is recognized by its small acuminated papulæ, becoming vesicular the second day, pustular the third, pointing and becoming surrounded about the eighth day with an inflammatory areola. All these facts are very simple, and these characteristics so well designated, that they should not be mistaken. As to scarlatina, its characteristics are still better marked ; a diffuse, wine-like coloration. The descriptions are far from giving exactly that which exists in all cases. You see, in fact, cases of rougeola, and I have shown you some of them, which present an eruption, diffuse, uniform, without red spots, isolated by intervals of white ones. In truth, this form of the eruption is not the rule, but it does exist.

In contradiction to this you will meet with cases of discrete scarlatina, and even cases of confluent scarlatina, in which the eruption will be, in certain points, composed of red spots, and still better, by small, rounded, red points, perfectly isolated from each other, not having the wine-like, the raspberry color which has been attributed to it. It differs, however, from the eruption of rougeola, yet may sometimes be confounded with it.

What also distinguishes scarlatina, is the presence of a miliary eruption, which very often accompanies the redness of the skin, and which is met almost invariably when the scarlatina is very slightly confluent. It appears upon the sides of the neck, upon the chest, upon the bowels. It is known without seeing it. By passing the hand over these parts, small elevations are felt, which give the same

impression as goose flesh. Searching for them, then, a multitude of small vesicules will be perceived, which, after thirty-six or forty-eight hours, are filled with a lactescent fluid.

As to the eruption of scarlatina itself, it is not really of an uniform tint, like erysipelas, but of an infinite series of little elevations of the skin, resembling an extremely fine eczema. They are recognized by the touch, and by the magnifying glass this disposition is very evident.

The redness exists, at its greatest intensity, upon the neck, upon the chest, upon the bowels, and the internal surface of the arms and thighs. It appears about the same time everywhere, although it is most frequently seen upon the neck and chest, before it shows itself upon the countenance. Upon the face it has not the same characteristics as upon the body. Of a speckled appearance, of a deep red in some points, adjoining white spots, the skin of the face seems as though it bore marks of the fingers, with which it had been severely struck. At the same time it is swollen, and this puffiness is also observable in the hands and feet. It takes place the instant that the eruption appears, increases with it, and is consequently more marked the second or third day. In the hands it interferes with the movement of the fingers, which the patient can fold only with difficulty, and it can easily be proved to the sight. Progressing with the eruption, it usually disappears with it, as well from the face as from the extremities. It remains for a while at the angle of the jaws, upon the neck, and these regions are painful to the touch.

Examining the throat of the patient, a deep color and tumefaction of the veil of the palate, and of the tonsils, is seen ; very often these present small whitish concretions, the first manifestation of the membranous angina of scarlatina, upon which I shall have to dwell.

The appearance of the *tongue* is such, so specific, that by it alone the disease can be distinguished. Neither in rougeola nor in variola, will you find that appearance which the tongue takes in scarlatina, a characteristic as special in this exanthematous fever, as is the variolous eruption of the mouth in variola. The first day the tongue offers nothing special, other than the more or less thick slimy fur, more or less white, of a yellow or greenish color when the patient has vomited ; nothing more than the slight redness of the point and edges, of which we have already spoken. The next day this redness increases in intensity and extent ; it increases the third day even, and towards the fourth or fifth day the thick fur has more or less completely disappeared ; the whole tongue is of a bright red color, tumefied, pre-

senting a considerable elevation of the papillæ, which gives to it an appearance analogous to that of a strawberry. It is deprived of its epithelium, and in some cases you can assist this work of desquamation, you can even hasten it, by rubbing the tongue with a piece of cloth. This is an invariable phenomenon in scarlatina, at least when the affection has not been marked by any febrile phenomenon. There is nothing analogous to this in rougeola, nor in variola, even when this is accompanied by stomatitis. Towards the seventh or eighth day, still preserving its red color, the tongue becomes smoother, and towards the eighth or ninth day the epithelium is renewed in a very apparent manner, at first excessively thin, but towards the twelfth day it has nearly regained its natural thickness; but the mucous membrane remains a little redder than in the normal condition.

The phenomena which attract our attention the most in scarlatina, are the *nervous symptoms*. It is proper to say that their intensity in this disease is so special, that they alone, in a great many cases, will suffice to separate it from any other exanthematous fever. Never, or very seldom, at least, is rougeola announced by any severe cerebral symptoms, with the exception of eclampsia; and as in fact it is only in this respect that any possible confusion can be made between rougeola and scarlatina, the intensity of these symptoms alone establishes a capital difference between these two diseases.

They are present from the beginning; from the first day they exhibit themselves by *delirium*. This is not the case in mild scarlatina, but in its severe form it is seldom absent. When the disease is serious, it is as well marked as in the most severe typhoid fevers; it appears with the eruption, persists until the period of desquamation, or more correctly speaking, until the fever falls.

Delirium is not the only manifestation of nervous disorders; they are also shown by *carphologia*, *jactitation*, *coma*, and in some cases by *coma vigil*; in a word, all the forms of typhoid nervous symptoms are met with.

In infants it is not uncommon to witness *attacks of eclampsia* in the first two or three days of the disease. The convulsions have, however, a very different character, as regards their seriousness, than have the initial convulsions of rougeola and variola; for while those of variola are considered by certain authors, Sydenham among others (whose opinion I do not partake), as being of a favorable augury,—while the initial eclampsia in rougeola is generally regarded as a symptom of very slight value,—the attacks of eclampsia occurring the first or second day in scarlatina are, upon the contrary, of great

gravity. This gravity is still greater if they arise in the third period of the disease, when there is general œdema ; we shall have again to speak of its signification ; we shall have to say that then the convulsions are often fatal symptoms.

Even in adults examples are not wanting. Epileptiform symptoms appear the second or third day of the scarlatina, in those persons particularly who have been subject to attacks of epilepsy these initial convulsions are repeated, coma succeeds, and death comes in the first twenty-four hours after their appearance.

There is still another marked nervous phenomenon of a very bad prognostic. I speak of dyspnœa, which is, however, not attributed to any material lesion of the lung, a dyspnœa which is met with its mournful signification in a great number of septic diseases, in puerperal typhus, the typhus of camps, in cholera, &c., dyspnœa which you have been able to witness in that woman recently delivered, who was so suddenly carried off by scarlatina.

Independently of these disorders inherent to the disturbances of cerebral and spinal innervation, there are others which are allied to *perturbations sustained by the ganglionic system*, and which I shall point out to you.

You, doubtless, are acquainted with the wonderful works of M. Claude Bernard, upon the section of the ganglionic nerves ; you know that this section produces in the parts to which the filaments of nerves are distributed, not a paralysis, but, on the contrary, an exaggeration of certain functions, particularly of calorification and of secretion. The learned Professor of the College of France has shown you how, by cutting the sympathetic filaments which go to the ear and face of the rabbit, an elevation of temperature is produced in these parts, which may rise from 4 to 5 degrees higher than the normal temperature ; he has shown you that by cutting the ganglionic nerves of the coronary plexus, considerable hypersecretion of the gastric mucous membrane results. From these experiments you will draw the conclusion, that each time that calorificity is increased in an animal, there will be reason to infer some disturbance in the ganglionic nervous system, rather than in the functions of the cerebro-spinal system. But there is certainly no disease which is accompanied by a *general elevation of temperature* as high as scarlatina. In those affected with scarlatina, in fact, the thermometer introduced into the rectum, or placed in the armpit, has marked 40 to 41 degrees centigrade. This elevation of temperature can only be explained by the disturbances in the ganglionic innervation, which are also shown in other func-

tions, under the subjection of the grand sympathetic, as the incessant *bilious vomitings* which persist in some persons four, five, and six days, and the *abundant intractable diarrhæas*. Graves had pointed out this polycholic in scarlatina independent of any phlegmasia.

The non-inflammatory nature of these symptoms it is important to note. If, in fact, impressed with the idea of inflammation, which the heat of the skin seems to indicate, you endeavor to combat the diarrhæa and the vomitings by antiphlogistics, you will adopt the worst medication, in fact the most perilous treatment that can be adopted for scarlatina, for of all the eruptive fevers, scarlatina is the last one which requires this kind of treatment, seldom beneficial in rougeola or variola.

Besides the nervous symptoms which I have just indicated, others arise, sometimes at the commencement, rarely, it is true, at this period; these are hæmorrhages—hæmorrhages from the mucous membrane, subcutaneous hæmorrhages, renal hæmorrhages. These hæmorrhages belong, however, rather to the third period of the disease, and we shall see that in its declination hæmaturia in particular, coincides frequently with the anasarca of scarlatina, of which I shall have to speak.

In studying the relation existing between the severity of the disease and the intensity of the eruption, it will be seen that certain authors have committed a great fault in this respect, and the greater because they may lead into error those physicians who are not familiar with scarlatina. They say, in fact, that when the eruption is well developed, very bright, or, to use a vulgar expression, *well out*, the patient runs fewer chances of having any serious symptoms. Well, it should be said of scarlatina what is said of variola, its severity is in direct ratio with the intensity of the eruption. In a discrete scarlatina the danger is ordinarily less than in confluent scarlatina, as in a discrete variola there is less to fear than in a confluent variola. In both of these exanthemata, the more intense the eruption, the more serious the symptoms and the greater the danger. Such are the facts established by observation during the course of epidemics.

Scarlatina, I have insisted, does not even resemble itself; identical, be it understood, in its essence, it is not so in its forms. In some cases, after ten to twelve hours of fever, an insignificant eruption appears upon the neck and body, and two or three days afterwards this eruption and the fever which attended it have disappeared, the patient has hardly felt sick, desquamation goes on, it takes place by little bands, then after five to six days the disease is cured, and if

the patient does not expose himself to cold, or commit any imprudence, it passes entirely off. The disease has been so *simple*, that in certain families it passes unnoticed.

Between this mild form and that more severe form, the outlines of which I have already traced for you, there are intermediate forms. Malignant scarlatina, I have told you, becomes a terrible scourge, equal to the most fearful pestilential diseases.

I now come to speak of a few particular symptoms of scarlatina, which I have indicated *en passant*, and which it is necessary I should dwell upon more in detail.

And first, of the *angina of scarlatina*.

[To be continued next month.]

REVIEWS AND BIBLIOGRAPHY.

The Medical Profession in Ancient Times: An Anniversary Discourse delivered before the New York Academy of Medicine, November 7, 1857. By JOHN WATSON, M.D., Surgeon to the New York Hospital. Published by order of the Academy. 8vo. pp. 222.

We desire to acknowledge our indebtedness to the author for a copy of this work. As its title indicates, a synopsis of it was read before the Academy of Medicine of this city, as an anniversary discourse, but it partakes more of the character of a history of Medicine than of an oration. It has been wrought out quietly, in the silence of the study, with no effort at oratorical display, or with the design of catching the breath of popular applause. It is, in short, an earnest contribution to the history of medicine, and, it may be added, is a most valuable one. We hail its appearance with especial pleasure, because instances are too rare among us of devotion to this branch of knowledge, and because it will call the attention of some to the studies of the Fathers in Medicine (many of them older than the Fathers of the Church), and to the good things which are contained in their writings. Dr. Watson's style is clear, and he seems to take great pains to avoid all superfluity of words. Sometimes his desire to condense produces a little obscurity, but it is not often the case. We propose to select some of the good things of the volume, in the expectation that the taste thus afforded will induce our readers to place it in their libraries.

Æsculapius and his followers are thus spoken of :—

But notwithstanding the speculations of the philosophers, and the

trainings of the *Palæstræ*, the Temples of *Æsculapius* were the first great foundations of medical knowledge among the Greeks.

These Temples were numerously dispersed throughout the Grecian states and colonies, as at *Titane*, *Epidaurus*, *Cyrene*, *Rhodes*, *Orope* in *Attica*, *Cylene* in *Ellis*, *Tithorea* in *Phocion*, *Tricca* in *Thessaly*, *Megalapolis* in *Arcadia*, *Cnidos*, *Cos*, *Corona*, *Pergamus*, *Corinth*, *Smyrna*, and numerous other places. Here were originally the homes of the *Asclepiadæ*, the schools in which they trained their offspring; and hither the suffering and afflicted resorted for consolation and relief.

The priests of *Æsculapius* were in the habit of turning to good account the opportunities at their command within the temples. The institution of the votive tablets on which were inscribed the history of the cases which had been relieved by them, indicates plainly that the idea of collecting the information thus recorded, and deducing therefrom a systematic code of practice, must have been contemplated by the descendants of *Æsculapius* at an early day.

These temples, or *Asclepions*, long before medicine began to assume a scientific character, had served as schools of instruction, and as asylums for the sick. They furnished the nucleus from which, in process of time, were developed other institutions and organizations. As schools, the most ancient of them is said to have been at *Titane*, near *Sicyon*. Those of *Rhodes* and *Epidaurus*, were of early repute. But the school of *Cnidos* is that from which issued the earliest literary performance which can be clearly traced to the *Asclepiadæ*, namely, the "*Cnidian Sentences*;" which are attributed to *Euryphon*, the contemporary of *Hippocrates*, though somewhat his senior. As asylums, the temples bore no inapt resemblance to the hospitals and infirmaries of modern times; into which, in fact, some of them were ultimately converted. The temples of *Epidaurus*, *Cos*, *Tricca*, according to *Strabo*, were always filled with patients; and along their walls the tablets were suspended, upon which were recorded the history and treatment of the individual cases of disease.

The choice of situation, and internal management of the temples, show with what care the priests of *Æsculapius*, while observing the rites of his religion, provided for the well-being of the sick. They usually occupied some elevated or retired and healthy locality, not far removed from the cities, surrounded by shady groves, or in the neighborhood of thermal springs, or fountains of medicated water. They were sacred from intrusion, and accessible to the sick only after suitable preparation. The invalid, on his arrival, submitted to purification, by fasting, ablution, and inunction. He afterwards passed the night within the *Hicetas* or common hall of the temple. During the ceremony of incubation, the presiding deity is supposed to appear before him in the silence of the night, and, by voice or otherwise, announce to him the means of cure; which, on the following day, the priest in attendance also ascertained, and afterwards undertook the supervision of the treatment.

The fees of these priests were the free-will offerings of the sick. It

was consequently to the interest of the priests to cherish the superstitions of the people. Their devices for this purpose, Aristophanes has humorously portrayed in his comedy of *Plutus* :—

"Having bathed *Plutus* in the sea," says the servant *Cario*, "we went to the temple of *Æsculapius* ; and when our wafers and preparatory sacrifices were offered on the altar, and our cakes on the flame of *Vulcan*, we laid him on a couch, as was proper, and made ready our own mattresses. . . . When the priests had extinguished the lights, he told us to go to sleep, adding that if any of us heard the hissing we should by no means stir. We therefore all remained in bed, and made no noise. As for myself, I could not sleep, on account of the odor of a basin of savory porridge which an old woman had at the side of her bed, and which I longed for amazingly. Being, therefore, anxious to creep near it, I raised my head, and saw the sacristan take the cakes and dried figs from the sacred table, and going the round of the altars, put all that he could find into a bag. It occurred to me that it would be meritorious in me to follow his example, so I arose to secure the basin of porridge, . . . fearing only that the priest might get at it before me, with his garlands on. . . . The old woman, on hearing me, stretched forth her hand. But I hissed, and seized her fingers with my teeth, as if I were an *Æsculapian* snake ; then, drawing back her hand again, she lay down and wrapped herself up quickly. . . . while I swallowed the porridge, and, when full, retired to rest."

The serpent to which Aristophanes here refers, was the usual emblem of the presiding Numen, or divinity of the temple ; though other animals, as the cock and the dog, were occasionally employed for the same purpose. The figure of the serpent sculptured in stone, met the eye of the devotee at the entrance of the temple ; and the animal itself was cherished and preserved within the sacred precincts. The *Æsculapian* serpent, according to *Pausanias*, was of a peculiar variety, of a yellowish or brown color, and found only at *Epidaurus*. At the founding of new temples, it was always transferred from the old to the new abodes. Such was the ceremony, as we learn from *Livy*, when, in the year of Rome, 461, for arresting the progress of pestilence in that city, commissioners were sent to transfer the sacred serpent from *Epidaurus* to the Island of the *Tiber*, where the first temple to *Æsculapius* was erected among the Romans.

Æsculapius himself was usually represented as a bearded and aged man ; sometimes bare-headed, sometimes crowned ; seated, standing erect, or leaning on his staff, around which the serpent is seen winding in spiral folds ; occasionally he is bearing a strobile of the pine ; sometimes he is seen alone, but more frequently accompanied by one of his daughters, usually *Hygeia*, who is robed in white, with a serpent in one of her hands and a shallow patella or cup in the other, to which the serpent is directing its attention. Not unfrequently between the figures of *Æsculapius* and *Hygeia*, a child is seen standing, the infant *Telephorus* or the *Harpocrates* of the Egyptians ;

and the cock is usually seen at the feet of Æsculapius. By the serpent, the Asclepiadæ are supposed to have symbolized circumspection and vigilance, and as Schulze supposes, the power of rejuvenescence; by the cock, their bird of sacrifice, they are thought also to have represented vigilance; and by the dog, fidelity and honesty. The Egyptian symbols of Serapis, or of Isis and Osiris, and the infant Harpocrates, were occasionally associated with the emblems more properly belonging to the Greeks—a custom adopted after the settlement of Alexandria. For it was a belief among the Egyptians, that infants had at times the power of divination; and in the sacred ceremonies of their temples, the sports and gambols of young children were often introduced. But in the temples of Isis and Osiris the genius of medicine was sometimes also represented by the figure of Silence. "*Et quoniam vero in omnibus templis ubi colebantur Isis et Serapis erat etiam simulacrum quod, digito labiis impresso, admovere videretur ut silentium fieret; hoc significare, ut homines illos fuisse taceretur.*"

The Asclepiions, however, were not the only temples to which the Greeks resorted for relief from sickness. The temples of Apollo, and of the other gods, were also open to them, but only as places for consulting the gods; not, as at the Asclepiions, to be subjected to treatment.

This is the conclusion at which Dr. Watson arrives concerning the Asclepiadæ:—

With respect, then, to the policy and ethics of the Asclepiadæ, we learn from the Oath and Law, as also from other passages in the Hippocratic code, that the student was formally bound to his master by indentures; that the son of a former master, choosing to enter the profession, received his education gratuitously; that others not thus circumstanced, were expected to pay for their instruction; that the sons of the Asclepiadæ did not necessarily follow their fathers' employment; that those who were employed in the temples, or in practice elsewhere, were, therefore, simply a fraternity, in the modern acceptation of that word, and not, as some suppose, an exclusive caste derived from one family; that each practitioner was at liberty to follow his occupation where and when he chose, but for honorable purposes only; and that even at this early day, there were designing men who were "physicians only in name," and who gave themselves up to disreputable practices; against whom the regularly initiated had no redress, and no other advantage than that upon which we ourselves rely, a superior education, honesty of purpose, devotion to their duties, and the confidence of a discerning public.

In the time of Hippocrates (about 400 B. C.), there were two rival medical schools, that of Cos and that of Cnidos. Hippocrates was at the head of the former, and hence derives his title of the

Sage of Cos. The differences of the two schools are thus sketched, and are as marked as the differences in schools in our day :—

The modes of contemplating disease in the two schools, were not alike. The Cnidians attended mainly to minute distinctions, to the characteristic traits of individual diseases, with little regard to the bearing or mutual relations of special symptoms. Thus they enumerated seven different diseases of the biliary organs, twelve of the bladder, and four of the kidneys ; they described four kinds of stranguery, three kinds of tetanus, four of jaundice, and three of phthisis. Their neighbors of Cos, on the other hand, held the study of such distinctions to be of small account, and gave their special attention to the grouping of important symptoms,—to what would now be called the constitutional condition, or the state of the system,—without regard to the particular disease, but mainly with reference to the prognosis and indications of treatment.

In the management of acute diseases the Cnidians employed numerous remedies, and in other affections, few. The school of Cos, though at times more heroic, especially in the use of the lancet and active purgatives, were in the habit of managing acute diseases by a restricted regimen ; barley-water more or less diluted, hydromel, and oxymel, being among their most frequent prescriptions. In the management of chronic diseases, they favored the medical gymnastics of Herodicius ; whilst at Cnidos these diseases were managed principally by laxatives, and a diet of milk, or of milk and water.

One of the chief professors in the medical school of Alexandria is described in the following paragraph, which presents some points of interest :—

Erasistratus was a native of the Isle of Chios. He had pursued philosophy under Theophrastus, and medicine under Chrysippus ; and before coming to Alexandria, had distinguished himself by discovering the secret ailment of young Antiochus, son of Seleucus, from observing the acceleration of the patient's pulse during the presence of Stratinice, of whom he was enamored. Like his associate, Erasistratus wrote extensively, and made discoveries in anatomy and physiology. He was familiar with the general distribution of the blood-vessels. He described the anatomical structure of the heart, and like Aristotle, made this organ the source both of the veins and the arteries. He held also, in common with Aristotle, that the arteries in health are filled with *pneuma*, or air, which they receive from the atmosphere in the process of respiration, and that the passage of blood into them from the veins, is the usual cause of disease. He was familiar with the functions of the nerves ; and as we are told by Ruffus, he divided them into nerves of motion and nerves of sensation. He was acquainted with the use of the catheter, and was probably the inventor of that instrument. He paid no regard to the Hippocratic doctrine of the humors, or of the four elements. He attributed all fevers to inflammation. The inflamma-

tion leading to dropsy, he placed in the liver and spleen. The animal spirits he seated in the brain ; the vital, in the heart. He rejected venesection, the use of drastic purgatives, and most other active medicines ; he treated diseases almost exclusively by diet and regimen, and was among the first to systematize gymnastics, or what would now be called hygiene, as a department of the healing art. Galen speaks of him as an accomplished anatomist, but charges him with want of skill as a physician. After commencing his anatomical and physiological researches, he may have been too much involved in these to attend to the minute details of practice. He held medicine to be a conjectural science. He was opposed to the sage of Cos on many points ; was said to have been envious of his reputation, and to have mentioned him as rarely as possible in his writings.

Another quotation concerning this school, and we pass to the Romans :—

The business of teaching at Alexandria, was never wholly confined to the professors. In medicine, as in other departments of science, there were independent instructors. Beyond the schools, the student of medicine appears to have had access to the temple of Serapis, which served in part as an asylum and place of refuge for the sick, and was used as such in the same way as the Asclepiens in other parts of Greece. Nor were the devices of the priests here less politic than at the more ancient temples of Æsculapius.

As Vespasian was one day walking through the streets 'of Alexandria, a man with a diseased eye threw himself at his feet, begging to be cured, and declaring he had been told by Serapis that his sight would be restored if the emperor would but spit upon his eyelids. Soon afterwards another who had lost the use of his hand, preferred the same petition ; having been told by Serapis that the emperor might heal him by trampling him under his feet. Vespasian at first laughed at their importunity ; but so far yielded to their wishes as to consult the medical faculty. The physicians, like skilful courtiers, deemed the cure by the means proposed, not impossible. The experiment was attempted before an assembled multitude. It was probably as successful as the royal touch of the kings of England and France in later times ; and the flatterers of the Emperor declared that he had healed the maimed, and restored the blind to sight.

But the brightest era of medical science at Alexandria, thus far, was the earliest. Under the first associates of the Museum, anatomy and physiology were cultivated with spirit and success ; and from the turn given to medical education by these teachers, the character of the school for ages afterwards was definitely determined. The Asclepiadæ of Cos and Cnidos had dwelt upon the phenomena of disease without attempting to demonstrate its structural relations ; like the sculptors of their own age, they studied the changing expression of vital action almost wholly from an external point of view. They meddled not with the dead. For, by their own laws, no one was allowed to die within the temple. But the early Alexan-

drians were subject to no such restrictions ; and turning to good account the discoveries of Aristotle in natural history and comparative anatomy, they undertook for the first time to describe the organization of the human frame from actual dissections ; and by applying the knowledge thus acquired to the pathological studies of their predecessors, they struck upon the course which, if followed out by their immediate successors, might have led to many early and brilliant improvements.

But their successors were slow in discovering the road that had been opened to them. Occupied in teaching what had already been surmised or ascertained, few of them were ambitious of adding much to the general stock of knowledge. The dissection of the human body was soon abandoned, and the improvements in pharmacy and additions to the *materia medica* introduced by them, were as much due to the commercial intercourse of Alexandria with India and Southern Asia, as to the scientific enterprise of its physicians. So that medicine, losing the independent and progressive character which it had received at the hands of Hippocrates and his early followers, was again reduced to a mere department of speculative philosophy, involved in futile disputations, and in formulas based on no substantial facts. Hence the several sects into which the profession in course of time became divided.

Of the Roman school we have space only for the two men best known as its representatives—Celsus and Galen. Of others, Dr. Watson gives many interesting sketches, but our limits, already transgressed, only suffer us to speak of these. Of Celsus, we have this :—

Aulus Cornelius Celsus, justly styled the Latin Hippocrates, was the junior contemporary of Themison, and so far as we are aware, the earliest medical writer of unequivocal Roman birth. Of his own personal history little is known. Quintilian attributes to him a treatise upon Rhetoric, and gives honorable testimony to the extent of his learning. His contemporary Columella, who often quotes from his work on agriculture, with great deference to his authority, equals him to the ablest writers on husbandry, and speaks of him as one not only skilled in agriculture, but who had familiarized himself with the whole compass of natural knowledge. His treatise on Medicine, in eight books, is all that now remains of his writings. According to the best critics, this work must have been written towards the close of the reign of Augustus, or, at latest, at the beginning of the reign of Tiberius. Celsus, more than any other of the ancient Latin physicians, is celebrated for the purity and elegance of his style, and for a concise and judicious manner of handling his subject. The summary history of medical doctrines, of the *materia medica*, and of surgery, introduced at the commencement of his first, fifth, and seventh books, shows how carefully he had studied the great masters of the art, and how well he was prepared to furnish a thorough and reliable digest of their opinions ; not

indeed as a compiler of minute details, but as one able to grasp the philosophy of medicine, and at the same time not to overlook any facts essential to the guidance of the practitioner. While citing many authors, he holds Hippocrates, and next to him Asclepiades, in chief regard. In judgment he is to independent to acquiesce in all that had been advanced by either of these. He rejects the Hippocratic doctrine of critical days, and he differs from Asclepiades in many points; but whilst dissenting from those whose authority he usually respects, he gives sufficient reason for his own opinions. The delicacy of his censure in condemning others, and the caution with which he avoids all allusion to himself, have led some to the belief that he was not a practitioner of medicine. But, as his translator Dr. Grieve, has well remarked, his forms of expression are those of a practitioner, and such as would come very improperly from a mere compiler. To the careful student of his works, it must appear incredible that a production so replete with practical suggestions, and so remarkable for medical discernment, could have been the work of any other than an accomplished and skilful physician. He may not indeed, like the Greeks of Rome, have practiced for a livelihood. "The man to be trusted," he tells us, "is he who knows his profession, and is not much absent from his patient. But they who practice only from views of gain . . . readily fall in with such rules as do not require close attention. . . . It is easy for such as seldom see the patient to count the days and paroxysms; but for him who would form a true judgment of what is alone fit to be done, it will be necessary to sit by his patient. The inference to be derived from this passage, as well as from his literary habits and polished style, is that he may have been in easy circumstances, above the necessity of practicing for the sake of gain, and that he followed his profession as a liberal and useful occupation, as law had originally been followed by the patricians and other men of influence at Rome; who, even in the days of Cicero, would have considered it disgraceful to accept a fee from the client in whose behalf they were officiating as advocates at the forum.

Before leaving this able author, we may notice his opinion of what a surgeon should be, and of what surgery should embrace. "Surgery, the third part of medicine," says he, "does not discard medicines and proper regimen; but yet the principal part is accomplished by the hand, and the effect of this is the most evident of all the parts of medicine. For, as fortune contributes a good deal to the cure of distempers, and the same things are often salutary, often fruitless; it may be doubted whether the recovery be owing to physick or the constitution. . . . But in surgery, it is manifest that the success, though it may be somewhat promoted by other means, is chiefly to be ascribed to this." "A surgeon," he continues, "ought to be young, or at most, but middle-aged; to have a strong and steady hand, never subject to tremble, and to be no less dexterous with his left than his right hand; to have a quick and clear sight; to be bold, and so far void of pity that he may have only in

view the cure of him whom he has taken in hand, and not in compassion to his cries either make more haste than the case requires, or cut less than is necessary ; but do all as if he were not moved by the shrieks of the patient." And then, as to the province of surgery, "it may be asked what peculiarly belongs to this branch, because surgeons assume to themselves the curing of many wounds and ulcers which I have treated of elsewhere, I can very well suppose the same person capable of performing all these ; and since they are divided, I esteem him most whose skill is most extensive. For my part, I have left to this branch those cases in which the physician makes a wound where he does not find one ; and those wounds and ulcers, in which I believe manual operation to be more useful than medicine ; lastly, whatever relates to the bones."

Strictly speaking, Galen is not of the Roman school, being a Greek by birth and education. It was not till his thirty-fourth year that he made Rome his residence. In that city he rapidly acquired reputation and practice—not only by his abilities, which were great, but by careful attention to every opportunity by which he could produce an impression upon others, favorable to his own reputation. The first of the following anecdotes, told by himself, illustrates this ; while the second, though of a different character, is too good to be omitted :

"Soon after my arrival in Rome," says he, "Glauco, the philosopher, took a great fancy to me, in consequence of my reputed skill in diagnosis. Meeting me accidentally in the street and shaking hands with me, he remarked, 'I have fallen upon you opportunely. I wish you to visit with me a patient in this neighborhood whom I have this moment left—the Silician physician whom you saw walking with me some days since, and who is now ill.' 'I inquired of him what ailed his friend?' when with his habitual candor he replied, that Gorgias and Apelas had spoken to him of my skill in diagnosis and prognosis, which appeared to them more like the result of divine inspiration than of medical science ; and that he wished to know for himself whether I really was thus skilful. He had hardly done speaking before we reached the door ; so that I had no opportunity of replying to his request—as I have often said to you—that on some occasions the signs of disease are certain, at other times they are ambiguous, and require to be considered again and again. But as we entered, I observed a servant carrying from the sick chamber a vessel containing a thin, bloody sanies, like the recent washing of flesh, a sure evidence of diseased liver. Without appearing to notice this circumstance, I proceeded with Glauco to the patient's apartment ; when placing my fingers on the wrist of the sick man, I examined his pulse in order to determine whether the attack was inflammatory, or simply a weakness of the affected viscus. As the patient was himself a physician, he remarked that he had recently been up, and that the effort at rising might have accelerated the

pulse ; but I had already discovered the evidences of inflammation ; and seeing on a recess in the window a jar containing something like a preparation of hyssop in honey and water, I knew that he had mistaken his disease for pleurisy ; in which, as in inflammations of the liver, there is usually pain under the false ribs. He had been led to this opinion, as I at once perceived, by experiencing this pain, by his short and hurried breathing, and by a slight cough. Understanding the case, therefore, and turning to good account what fortune had thrown in my way, in order to give Glauco a high opinion of my ability, I placed my hands over the false ribs, on the right side of the patient, and at the same time declared this to be the seat of pain ; which the sick man admitted to be correct. Glauco, supposing I had made this discovery merely by examining the pulse, began to express surprise. But to increase his astonishment, I added, 'Inasmuch as you admit the existence of pain at this spot, I wish you further to say whether you are troubled with a slight cough, and whether your cough is not dry, with sputa, and occurring at long intervals.' While I was yet speaking the sick man was seized with a cough such as I had described ; whereat Glauco was exceedingly excited, and no longer able to contain himself, began to vociferate in praise of my abilities. 'Do not think,' said I, 'that these are all the discoveries my art enables me to make ; there are others yet to be mentioned, which will elicit the testimony even of the patient.' Then turning to the latter I resumed : 'Is not the pain in this part increased, and accompanied with a sense of weight in the right hypochondrium, whenever you take a full breath ?' At hearing this the patient also was surprised, and was as loud in my praise as Glauco. Seeing fortune still smiling upon me, I was desirous of making some remark in reference to the shoulder, which appeared to be drawn downwards, as often occurs in severe inflammations as well as in induration of the liver ; but I did not venture to speak on this point, fearing to diminish the admiration which I had already excited. Nevertheless I touched upon it cautiously ; saying to the patient, 'You will not long feel the shoulder drawn downwards, if perchance you do not find it so already.' When he admitted this symptom also, seeing him greatly astonished, I said, 'I will add but one other word to show what you conceive to be the nature of your complaint.' Glauco declared he would not be surprised if I should do even this. But the patient, overcome with wonder at such a promise, observed me closely, waiting for what I should say. I told him he had taken his disease to be a pleurisy. This, with a further expression of surprise, he admitted to have been his own opinion, as well as that of his attendant ; who had been fomenting his side with oil, for the relief of that disease.

"From this time forward Glauco entertained the highest opinion both of me and of our art ; for, having never before come in contact with a physician of consummate ability, he had hitherto formed but an humble estimate of the profession. I have related to you these particulars," he adds, as if addressing a class of students,

"in order that you may understand that there are symptoms peculiar to particular diseases, and others common to several diseases; and, further, that there are some symptoms inseparable from the disease, some usually accompanying it, others again of uncertain character, or of rare occurrence; so that if fortune at any time offers to you a good opportunity, as in the instance just related, you may know how to take advantage of it; remembering that fortune often presents to us the means of acquiring fame, which, through ignorance, many are unable to turn to good account."

The following is equally characteristic: "There are, says he, 'certain persons who promise to prove that the arteries do not contain blood, yet never test their assertion by dissections. A teacher of this sort having asserted his ability to show that the aorta is always empty, and not demonstrating the fact, was exhorted to do so by a number of ambitious young men who had provided animals for the purpose. At first he refused to comply with their request unless suitably rewarded; whereupon they placed before him a thousand denarii as an inducement to prove his assertion. After much prevarication, when urged to proceed by all present, he took the scalpel in hand, and began by making an incision in the left side of the chest, where he imagined the artery could be exposed; but such was his want of anatomical skill that he cut directly down upon the bone. One of his associates, however, having opened through the intercostal spaces, he, again proceeding, injured in the first place the artery, and afterwards the vein. The young men who had deposited the money with the spectators, now, laughing at him, undertook the experiment themselves. They dissected through the intercostal spaces, as they had been previously taught by me, in such a way as not to injure the vessels; and without delay surrounded the artery with two ligatures; one at its point of departure from the heart, the other where it rests upon the spine, just as these boastful teachers had promised to do, in order that when the animal was dead one might see, from so much of the vessel as lay between the ligatures, whether or not the artery was empty of blood. But when it was not found to be empty, they declared that an incision must have been made in it at the time of applying the ligature; as if some other individual, and not these teachers themselves, had promised the demonstration. For they had never tried the experiment in presence of witnesses, nor could they have had much skill in applying the ligatures, since they did not even know that the artery and vein both extend to the lower boundary of the ribs."

Thus we close our extracts, and we are mistaken if many of our readers do not find themselves so interested in them as at once to desire to read the whole. For ourself, we shall continue to wait more and more impatiently for the continuation of this history, with which the author intimates, in his preface, that he may hereafter favor the profession.

Statistical Report on the Sickness and Mortality in the Army of the United States, compiled from the records of the Surgeon-General's office, embracing a period of sixteen years, from January, 1839, to January, 1855. Prepared under the direction of Brev. Brig. Gen. Thomas Lawson, Surgeon-General U. S. Army, by Richard H. Coolidge, M.D., Assistant Surgeon U. S. Army. 1856; quarto, 703 pp., with a map.

It is not always the case that statistics tell the truth, and one naturally looks at their source before he places implicit confidence in them. It is, therefore, proper to say, with this volume before us, that the statistics furnished by the medical staff of the army are especially reliable. This will be evident from these considerations: First, they are made concerning a certain number of persons, all of whom are entirely subject, during sickness, to the medical attendant. He can control them in every respect, visit them as often as may be in his opinion desirable, and can keep the control, at least of all acute cases, till they end. In the second place, the medical staff of the army is, as to its professional standing, above the average of the profession, and, therefore, their statements are worthy of all confidence. Thirdly, by the division of labor, so to speak—that is, by the assignment of a medical officer to a limited number of men, the exact condition of all can be uniformly ascertained, while, at the same time, the Surgeon-General is able to direct the attention of the whole staff to the same points, securing what cannot otherwise be obtained, viz: facility in the comparison of the observations made in all parts of the country.

We scarcely need to say that, for these reasons, we consider this volume as one of no ordinary value. It may, we believe, be consulted with confidence, and its results may with safety be made the basis of deductions of no little importance in civil life. In fact, it is apparent that this was the chief purpose of the Surgeon-General, as well as of the compiler. The latter, indeed, after alluding to the fact that, "during the sixteen years embraced in this report, the army has had but three years' exemption from field operations and actual hostilities," says: "In order to make the records of this office practically useful to the physician in civil life, and to render them subservient to the elucidation of the effects of climate in the causation and development of disease, it was necessary not only to present the vital statistics of the army in peace separate from those in war, but also to arrange the former in such manner as to render their comparison with the statistics of civil communities as free from objection as possible."

The general plan of the book is this : The military posts of the country have been arranged in divisions according to their geographical relations. These are subdivided into regions, and the reports made by the medical officers of the different posts are grouped by regions, and are followed by the properly statistical tables of the sickness occurring in each division for the time before mentioned, namely, sixteen years. Meteorological reports from each section follow, and after these, statistics of the war with Mexico, and statistics of the recruiting service, an appendix concerning the Florida War, and remarks by various officers concerning the use of quinine in large doses bringing up the rear.

It will be apparent that there is here a large supply of material for remark, and many topics of interest are opened. To dwell upon all, as we could desire, is not now possible, and we therefore limit our present observations to the general statistical reports from the various divisions. These reports are, as we have said, of two classes, one consisting of papers written in reply to the order of the Surgeon-General, and describing more or less minutely the geography of the post, the physical aspect of the surrounding country, the geological formations, its flora, its fauna, its climate, the influence of habits, modes of life, water, diet, and local causes, and interesting particulars concerning the people living in the vicinity of the post ; and the second consisting of tabular condensations of the reports of sickness made to the Surgeon-General's office by all the medical officers at the close of each quarter.

The papers composing the first class of reports contain many striking facts, of which we shall repeat some of the most interesting, and without especial reference to any methodical arrangement.

Assistant Surgeon A. S. Wotherspoon makes the following statements concerning the inhabitants in the vicinity of Fort Kent, the northernmost post of Maine. These people are of French origin, being in part descendants of the old Arcadians, and in part of the Canadians. Dr. Wotherspoon says :—

They marry at an early age, particularly the females. One couple, who dwell a short distance from the fort, was married when the husband was 13 and the wife 14 years of age ; an instance occurred, since my residence in the country, of the marriage of a girl of 13 years, who had never menstruated ; and this, I am told, is by no means uncommon.

Some of the families are rather remarkable in point of numbers. Twelve living within a mile of the garrison, and taken without exception, have had in all 93 children, and been married in the

aggregate 162 years; a child every $20\frac{1}{2}$ months. The wife of Jacques Camel (the father of one of these families) has been married 11 years, and had 7 children, all now living, except the eldest, who died at the age of 4 years. During the whole of these 11 years, she has never seen her monthly periods but once. Her second child was born exactly nine months after her first accouchement; the third the same period after the second. She has always been in the habit of nursing her children from one birth to another.

Burgoyne, æt. 59, residing at Green river, has had 20 children—18 by his first wife, 2 by his second. She is now enciente. His eldest daughter has been married ten years, and has had 8 children. His mother had three pairs of twins.

Larent Terriand, at the same place, has had 26 children by one wife; the mother had her last infant at the age of 53.

Buonaventure La Crog, in eighteen years, had 19 children; of these, five pairs were twins.

Thibadeaux, now 66 years of age, has had 22 children by two wives—10 by the first, 12 by the second. Buonaventure Lisotte, at the age of 27, married Julia Martin at 19. He is now 51, she 43. They have had 17 children; and 4 pairs were twins.

German Cire has had 22 children, all single births; his wife was married at the age of 14, and is now 43.

German Michaux has had 20 children by two wives; the youngest of these is 4 years of age. He is now 59, she 45 years old.

The wife of Isaac Bialeto, aged 42, has had 19 children.

The wife of Pierre Richor, at Chatia Corner, has had in three years three successive twin births; all 6 children are now living.

Mr. Webber, the Massachusetts land agent, who took the census in 1830, saw in one log hut a woman with 5 children under $3\frac{1}{2}$ years; one twin and one triplet birth. She was then pregnant a third time.

There are six families at Green river, living within the space of a mile, who have had, in all, 106 children; an average of 17.66 each.

They are attended during their confinements by the older women, some of whom have acquired considerable reputation in the management of obstetrical cases. They do not hesitate, when the labor does not progress with sufficient rapidity, to seize upon the presenting part, and effect the delivery by main force. In an arm presentation, the midwife fairly tore the child to pieces, effecting a delivery by means of a common kitchen pot-hook; and what is rather singular, the mother recovered without any serious trouble resulting. They leave their beds often within twenty-four hours after the birth of the child, to attend to their customary household employments. In consequence of this, their rapid child-bearing, and the hard labor to which they are occasionally subjected, the greater majority of the females, particularly when advanced in life, suffer from prolapsus uteri and leucorrhœa. Uterine hæmorrhages are also of very frequent occurrence.

In 38 cases, the average date of the first appearance of the menses was 13.5 years; in one case commencing at 11, in the most pro-

tracted at 19 years. To compare with these, I have procured the ages at which the only eight American girls who have been raised on the river, first menstruated. The average date was 15.12 years—the youngest at 14, the eldest at 16. As the Americans have a decided superiority in manner of living, use better and more stimulating food, wear warmer and more comfortable clothing—all of which causes would tend to accelerate the period of puberty—it would seem that race, as well as climate, has great influence in the matter. I have been able to obtain but few observations concerning the period of the menstrual flux. In three cases, it ceased at the ages of 43, 46, and 51 years.

Assistant Surgeon Charles C. Keeney thus speaks of the effect of bad bread upon the health of troops :

As far as my experience has gone at military posts, I have found bread badly baked, and an undue quantity of alcoholic drinks, to be the chief originators of the diseases of the digestive organs. Too much stress cannot be laid on the importance of having bread thoroughly baked. I have not unfrequently seen two-thirds of a command at a time afflicted with diseases of the digestive organs, arising from one single batch of badly baked bread. The company baker and bake-house should be daily inspected ; and as the art of making bread is a chemical process, none are so competent to make this inspection as the medical officer of the post. Stringent orders should be issued, enjoining on the commanding officer of the post to see this important inspection daily made.

We have so often seen injurious effects from bread improperly cooked, or improperly made, that we are quite certain that the Doctor is right. Much of the dyspepsia which is so common among the farming population, and especially among the females, is, we believe, due to bread made badly, cooked insufficiently, and eaten hastily while hot. Any man who habitually has bad bread on his table, may believe that his life is materially shortened by it.

In different reports we find allusions to the condition of the children among the Indians, and the rate of mortality among them. To those who sigh for the simplicity and consequent rugged health of savage life, it may be interesting to know that civilized life lengthens instead of shortening life ; and that the mortality among children is decidedly less in civilized communities.

Dr. Day, who does not appear to be of the army, makes a report to one of the surgeons concerning the condition of the Winnebagoes. This tribe he believes is increasing in numbers, and yet the proportion of those dying under 15 years is 70 per cent. of the whole mortality, a much higher ratio than that found among either the whites or the negroes of this country. Still there are some remarkable

instances of longevity among them. Concerning the treatment of the children, Dr. Day says :

The large per centage of deaths occurring in the early periods of life among these Indians, is abundantly accounted for by the Spartan treatment to which they are subjected in infancy. As soon as an infant is born, it is laid on a board, previously covered with a few folds of blanket ; then, with a strip of cloth two or three inches wide, is as amply and securely bandaged from head to foot as an Egyptian mummy, and then strapped to the board, care being always taken to include the arms, which are extended upon the sides of the infant, and leaving nothing out of the bandage but its head. In this straitened position they spend the greater part of the first year of infantile life, remaining at times for weeks without being taken from the board. The effect of this cradle (?) with the heavy woolen bandages, is to interfere with, if not entirely preclude, the healthy functions of the skin. The excrements of the child's body collect, excoriating the skin, and keeping up a constant irritation. The motions of the limbs—the only voluntary exercise an infant can have, and one so necessary to the development of its physical powers—being entirely precluded, it soon becomes weak and enfeebled. But the most pernicious effect of strapping their infants upon these boards is exerted upon the brain. Being always laid upon their backs, with little or nothing between the hard board and the imperfectly ossified head, the continued pressure exerted by the weight of the head almost universally produces a displacement of the occipital bone inwards, causing trismus nascentium, paralysis, &c., and deranging the functions over which the cerebellum presides. They think it a mark of great comeliness to have the head perfectly flattened behind ; and the Indian mothers show much anxiety in this respect.

It is wrong to suppose Indian children better capable of surviving less careful treatment in infancy than are those of the whites. The former are generally born with less vigorous constitutions than the latter ; and in taking into consideration the numerous causes of disease and death to which these forest children are subjected, the wonder is, how *any* survive—not why so many die.

Assistant Surgeon Wasson remarks that among the Sioux, one of the most warlike tribes, there is no doubt that a very large number of children fall victims to the "hardening processes to which they are unavoidably subjected, who, in civilized life, would have been reared to useful maturity."

The same officer, in a previous report made by him while residing in the vicinity of the Camanches, the most powerful tribe of Texas, states that he observed the same results consequent upon the same process among them. Assistant Surgeon Swift says of the same tribe, another portion of which was in his neighborhood, that they mostly die in infancy. Assistant Surgeon J. F. Hammond, stationed

in 1852 at Socorro, New Mexico, thus speaks of the inhabitants of that county. The late appearance of the teeth and the permanence of the first set seem incredible, especially when taken in connection with their early puberty. It will be remembered, however, that this is the region from which those miserable specimens of humanity exhibited as the Aztec children were brought.

In consequence of the altitude of the country, probably (?) ; of the impure atmosphere in their ill-ventilated habitations ; of their insufficient clothing ; want of cleanliness ; want of exercise ; scant and little varied diet ; early marriages and an inherited cachexia, they are born with feeble constitutions ; cut the first incisor teeth at the end of the first year of age ; walk at two years ; are weaned at three years, or when the mother becomes obviously eniente ; the females menstruate at twelve and thirteen ; the milk canines are seen standing, and the permanent molares appearing at the seventeenth year ; at twenty-five they are in the "sere and yellow leaf ;" liable to be, and suffering much when they are, attacked by disease, they pass through life with lessened vitality, and rarely attain to very old age. Nature has done a great deal for them. Were they civilized and intelligent, disease would be little known among them.

The method of nature does not seem to succeed any better in Monterey, California, for Assistant Surgeon King reports thus of that healthy city :

More children die of cholera infantum and lobular or infantile pneumonia than from any other disease. These affections, as I before observed, are produced more by the mode of living than any climatic agency. It is the custom among all classes of native Californians to clothe their children very scantily until they attain the age of four or five years. Before this period no shoes nor stockings are used, the only garment worn being a single short petticoat of thin calico, and often, indeed, are without any clothing whatever. During the rainy season, the lower extremities of the children are constantly cold and damp, and, as fire-places and chimneys are almost unknown, their garments are seldom dry, and in this condition they usually sleep on mats laid on a ground floor. To these causes are to be ascribed also the catarrhal affections so common to children, and the pleurisy frequently met with in adults.

The Chinooks, of Oregon Territory, seem to be somewhat more successful, according to the report of Surgeon Moses, which we give as the only one that speaks at all favorably of hardening :

The infant, immediately after ablution, is straightened out, tightly swathed, with the arms included, and placed on a board to be submitted to the process of flattening of the head. This is effected by pads, suitably placed over the frontal bone, inclining from the superciliary arch to the vertex ; counter pressure being made by a pad under the occipital bone. The pressure is maintained during one

year, when the bones having sufficiently ossified to retain the desired shape, the pads are removed. Infants do not appear to suffer by this pressure, which is kept up day and night; they nurse well, and sleep comfortably. Among certain tribes side-pads are used, so as to render the head pointed; but this is not followed with the Chinook.

Many of these reports speak of child-bearing among the various savage tribes, and half-savage people, who surround the remote posts, and their general testimony is, that parturition is attended with the usual dangers, while, from the want of knowledge on the part of the midwives to enable them to remedy unfortunate positions, the lives both of mother and child are often sacrificed. Uterine diseases, such as leucorrhœa, prolapsus, &c., are very common among them, and are usually attributed by the reporters to too early getting up after labor. But we have not space for extracts which dwell upon these topics.

The tabulated reports, those which are purely statistical, are made up from the quarterly reports returned on certain days from each post, and as they are simply returns of diseases treated, and their results are entirely independent of any theories or impressions of the writers, they constitute a valuable accession to this kind of knowledge, and suggest many interesting subjects to the student. On one point alone shall we dwell, in part because it is one of the most important, in part because especial attention has been called to it by the compiler of the volume, and in part because it sustains views already advanced by a late French writer, and laid before the readers of the MONTHLY about a year since. We refer to the influence of climate on phthisical person.

The writer to whom we refer is Jules Rochard, a surgeon in the French navy, whose book on the influence of a sea life and warm countries on the progress of phthisis, was considered worthy of a prize by the French Academy of Medicine. The first paragraph which we quoted from his work so well expresses what we wish now to say, that we shall not apologize for repeating it:

When one studies a disease which is set down for nearly a tenth of the general mortality, and whose victims are counted by thousands, when it is proposed to determine its frequency and its progress in given conditions, one must turn not to individuals but to masses. Statistics alone can furnish the solution of such a problem; but that they may have a real value it is necessary that they should be based upon collections of men subjected to regular control and constantly under the eye of a physician. To be able to draw general conclusions from them, it is not necessary to confine them to the limited

observations of certain localities, but all latitudes should be embraced, and if possible every point of the globe of any importance.

As we have said, Dr. Coolidge, the compiler of this volume, has called especial attention to the evidence adduced by these tables, and we shall give his conclusions entire. The consolidated table of the mortality from phthisis in the army is thus given, and it will be seen that it includes computations of the per centage in the different regions :

Consolidated Table exhibiting the amount and ratio of sickness and mortality in the U. S. Army, in the various regions, from phthisis pulmonalis.

No.	Regions.	Mean strength.	No. treated.	Deaths.	Ratio of cases per 1,000 of mean strength.
1.	Coast of New England.....	3,963	19	5	4.8
2.	Harbor of New York.....	9,387	56	35	5.9
3.	West Point.....	6,901	6	8	0.8
4.	North Interior, East.....	3,553	17	10	4.7
5.	The Great Lakes.....	10,346	47	33	4.6
6.	North Interior, West.....	7,230	30	15	4.1
7.	Middle Atlantic.....	6,299	16	14	2.5
8.	Middle Interior, East.....	2,456	6	3	2.4
9.	Newport Barracks, Kentucky.....	1,454	5	4	3.4
10.	Jefferson Barracks and St. Louis Arsenal.	5,580	23	21	4.1
11.	Middle Interior, West.....	5,319	28	13	5.2
12.	South Atlantic.....	2,800	26	5	9.2
13.	South Interior, East.....	5,919	43	28	7.2
14.	South Interior, West.....	10,013	20	25	2
15.	Atlantic Coast of Florida.....	835	2	1	2.3
16.	Gulf Coast of Florida.....	2,299	16	3	6.9
17.	Texas, Southern Frontier.....	4,450	18	11	4
18.	Texas, Western Frontier.....	6,324	25	12	3.9
19.	New Mexico.....	5,873	8	3	1.3
20.	California, Southern.....	1,707	9	5	5.2
21.	California, Northern.....	1,599	9	4	5.6
22.	Oregon and Washington.....	1,831	6	2	3.2

On this table Dr. Coolidge remarks :

The ratio of "cases treated" is given in this table in preference to that of deaths, for the reason heretofore stated, that soldiers affected with chronic diseases are frequently discharged from the service in accordance with their own wishes.

The cadets of the Military Academy at West Point are young, are only admitted after a rigid examination in regard to their health and physical development, and remain but four years in that institution. The statistics for West Point should therefore be excluded from any analysis of the results exhibited in this table ; those also for New York harbor are to be considered as constituting a partial exception for the reasons stated on page 14 of this volume. One other qualification relative to these statistics needs to be mentioned : the ratio given for the North Interior West is higher than would be the case if the statistics for Fort Crawford were thrown out.

It will be perceived by an examination of this table that, with exception of West Point, the lowest ratio of cases of consumption

occurs in New Mexico, being only 1.3 per 1,000; and the highest in the South Atlantic Region, where it is 9.2 per 1,000.

It will also be noticed that the regions designated as the South Interior East and Gulf Coast of Florida give the next highest proportions, being respectively 7.2 and 6.9 per 1,000 of mean strength. The ratios of these three regions, and also those for California, are higher than for any of the regions in the northern division. A careful examination of the consolidated temperature, rain, and weather tables in this volume, in connection with the statistics relative to consumption, will, it is believed, lead to the following conclusions:

First. That temperature, considered by itself, does not exert that marked controlling influence upon the development or progress of phthisis which has been attributed to it. If a high range of temperature were favorable to the consumptive, the South Atlantic Region, the South Interior East, and the Gulf Coast of Florida, should exhibit a lower ratio than the colder regions of the North and northwest, whereas the contrary obtains; and again, if a high range of temperature were the controlling element in causing an increased ratio of this disease in the two southern regions above named, we ought *not* to find a lower proportion of cases in Texas, where the temperature is higher, nor in the South Interior West, where it is nearly the same as in the South Atlantic Region.

Second. That the most important atmospherical condition for a consumptive is DRYNESS. An examination of the rain tables will serve in part to elucidate this position, and in part only, for the total annual precipitation in rain and snow may be equal in two or more places, and yet the average condition of the air as respects moisture—the dew-point—may widely differ. It is impossible to represent all these distinctive features by statistical tables, but the fact has been forcibly impressed upon the compiler during the minute examinations necessary to the preparation of this report.

Third. That next to DRYNESS in importance is an EQUABLE temperature—a temperature uniform for long periods, and not disturbed by sudden or frequent changes. An uniformly *low* temperature is much to be preferred to an uniformly *high* temperature. The former exerts a tonic and stimulating effect upon the general system, while the latter produces general debility and nervous exhaustion. The worst possible climate for a consumptive is one with a long-continued high temperature and a high dew-point.

The papers from which we have before quoted contain frequent confirmation of these views. Thus Assistant Surgeon Witherspoon says of Fort Kent, which is in the North Interior Region, East:

The climate of Fort Kent, like that of the colder regions of northern Europe, does not seem favorable for the production of pulmonary phthisis. During my sojourn at the post, I have neither seen nor heard of a case of this disease among the French or American settlers. Assistant Surgeon Isaacs, who, during the two years he was resident at the fort, had a much better opportunity than myself

of becoming acquainted with the diseases of the country, informs me, not only that he never saw a case of consumption in the country, but that some of the inmates of the garrison, who were affected with suspicious symptoms, recovered from them entirely. The present revenue officer at the post, a man of decidedly scrofulous temperament, had suffered a slight attack of hæmoptysis, and other symptoms of incipient pulmonary disease, when he was ordered to this post. Though liable to catch cold when exposed, his cough no longer troubles him; he has gained flesh and strength, and considers himself free from the disease. A careful examination of the chest in this case, gave no marked results; yet I have no doubt, from his symptoms, that when ordered to Fort Kent he was suffering under tubercular deposition in the lungs. One case of phthisis occurred in an artificer in company G, 1st artillery, a man hereditarily disposed to the disease, and having it fully developed before his arrival at the post. He remained for a year in tolerable health, until much exposed to hard labor in the midst of the melting snows of March and April, when the disease became more marked, and he was forced to enter the hospital. As his term of service had nearly expired, and he was desirous of visiting his friends, he was allowed a furlough, without remaining any length of time under treatment.

Assistant Surgeon Coolidge reports from Fort Fairfield, which is in the same region:

In the command, two cases of phthisis have occurred: one, complicated with extensive pleurisy, with effusion on the right side, proved rapidly fatal; the other, though well marked—a large cavity having formed in the superior lobe of the right lung, attended with such extreme emaciation that at one time death was daily expected—recovered; a result which I attribute to the invigorating effects of this climate, and to the use of iodine internally. More than a year has elapsed since the subject of this disease returned to duty, during which time he has been fully exposed to the vicissitudes of the weather. He is now healthy and robust.

Assistant Surgeon Sprague, reporting from Hancock Barracks in the same region, says:

Cold as the Winter is, and damp as the Autumn and Spring are rendered by frequent rains, persons who have suffered from weak chest find their complaints much mitigated by a residence here. Consumption is rarely seen among the inhabitants of the town, and many persons who were predisposed to that disease, have continued in good health, free from cough, and have had their constitutions invigorated and improved.

Surgeon Foot remarks of Fort Winnebago, which is in the North Interior Region West: "One thing I think remarkable here; complaints of the lungs, phthisis in all its forms, are less common here than at any post at which I was ever stationed. How shall we account for it? Is it the dry atmosphere?"

Assistant Surgeon Keeney, writing from Fort Dodge, in the same region, observes that "the only diseases of the chest, involving the substance of the lungs and pleura, were imported cases. The mildness of the diseases of the thoracic organs may also be attributed to the general dryness of the atmosphere during the great thermometric changes."

From Fort Laramie, in the same region, Assistant Surgeon G. K. Wood writes :

The climate of those broad and elevated table-lands which skirt the base of the Rocky Mountains on the East, is especially beneficial to persons suffering from pulmonary disease, or with a scrofulous diathesis. This has been known to the French inhabitants of the upper Mississippi and Missouri for many years ; and it has been their custom, since the settlement of that portion of the country, to send the younger members of their families, who showed any tendency to diseases of the lungs, to pass their youth among the trappers of the plains and mountains. The beneficial result of this course, no doubt, depends, in a great measure, upon the mode of life led by these persons—their regular habits, constant exercise in the open air, and the absence of the enervating influences incident to life in cities ; but that more is due to the climate itself, is shown by the fact, that among the troops stationed in this region (whose habits are much the same everywhere), this class of disease is of very rare occurrence. The reports from the line of posts stretching from the upper Platte, through New Mexico, to the Rio Grande, give a smaller proportion of cases of pulmonary disease than those from any other portion of the United States. The air in this region is almost devoid of moisture ; there are no sudden changes of temperature ; the depressing heats of the eastern Summers are never felt ; and, although in the North the Winters are extremely cold, a stimulant and tonic effect is the only result of exposure in the open air.

It is of great importance that the climate of this region should be generally known, that the present injudicious course of sending consumptives to the hot, low, and moist coast and islands of the Gulf of Mexico should be abandoned. In diseases of debility, the remedies are tonics and stimulants. What is more debilitating than affections of the lungs, and what less tonic than heat and moisture combined, as is found in the climate of the Gulf coast ! It is simply not cold, and has no other advantage over the northern States. The towns of New Mexico should be selected as a refuge for those showing a tendency to disease of the lungs, or scrofula, anywhere East of the Rocky Mountains, and West of the region, where "northers" prevail.

Assistant Surgeon Hammond, stationed in New Mexico, says :

Phthisis pulmonalis I have never seen in the country, except in two instances. Once in an officer of the United States army, and once in an American emigrant. It was developed in each before he

left the United States, and each very gradually improved. One resided at Socorro, the other at El Paso del Norte.

On the other hand, we have from Florida a report, by Assistant Surgeon Southgate, written evidently with the most complete confidence in the desirableness of that climate for consumptives. The "Camp, near New Smyrna," from which he writes, is directly in the district to which consumptives mostly resort, St. Augustine being a favorite place with them. And still the results of his observation, in themselves, are not calculated to impress one with the advantages of that region for this class of patients. The consolidated table before given shows a favorable per centage for this coast, but it is to be regretted that it is based on so small a number of men. Dr. Southgate says :

Lying mostly between two seas, Florida is, by position, entitled to an equable climate ; and yet, on this coast, and in this latitude, equability can hardly be considered characteristic of it. During the Winter and Spring, the atmospherical changes are often sudden and marked. Even in this respect, however, Florida, contrasted with other sections of our country, can claim a superiority. Rarely is the change so great as to impress an individual, in fair health, uncomfortably : and the invalid has, generally, sufficient warning to guard against it. In relation to general health, indeed, equability can hardly be considered the most vital element of climate ; the highest degree of physical vigor being attained in climates of which variableness is a striking quality. The human organism is constituted for such mutations ; and were it subjected to the monotonous impression of a uniform temperature for a length of time, its powers would, unquestionably, languish. Even in special cases, such as chronic diseases of the lungs, the marked difference, during the Summer, between the temperatures of day and night, so characteristic of the climate of this coast, would probably be of service to the invalid. The refreshing sleep that may be enjoyed during the cool nights of midsummer, with the invigorating sea-breezes of the day, must in his, as well as other cases marked by debility and irritation, promote the general health ; while the fact that, during the Winter, the temperature is rarely so depressed that exercise in the open air may not be enjoyed, will render it a salutary residence during that season of the year. Exercise in the open air, by maintaining the vigor of digestion, and appeasing the wearing excitement of the heart and arteries, must economize the vital force and save the integrity of the tissues ; and, to the consumptive invalid, these considerations are of the very first importance.

I write in reference to the northern invalid, whose skin has been constricted during successive hard winters, who has suffered from frequent catarrhs, and in the upper portion of whose lung the fatal deposit has been made ; to him, a removal to Florida holds out the prospect of greater length of days. I am credibly informed that

there are residing between this and Indian river, three individuals, who left the North, presenting the symptoms of advanced pulmonary disease, and, by a permanent residence in this delightful peninsula, have regained an unexpected measure of health. Making due allowance for probable errors of diagnosis, it is not improbable that the entire change of life, the newness of impressions—mental, moral, and physical—may have imparted a renewing impulse to the energies of the system, by which the secretion of tubercle has been checked, and that already deposited rendered inoperative for mischief. On the other hand, for those who become consumptive in Florida, a removal to a more bracing climate is imperatively demanded. In such, the rapid melting down of the tissues of the lung during the warmer months, it has been my painful duty to witness in more than a single instance. In St. Augustine, the climate of which differs but slightly from that of this camp, tuberculosis of the lungs is not a rare disease. Of one family, originally numbering ten, two alone survive—eight having been hurried to the tomb by this formidable malady. Among the negro population it is not uncommon, and would seem to be on the increase—three cases of the hæmorrhagic variety, all terminating in a rapid decline, having come under my observation. The cause of this increase in a class, on many accounts interesting, is worthy of the investigation of the philanthropist and physician.

In connection with all these facts we place the following table, arranged by Dr. Coolidge from the statistical reports concerning sickness, &c., in the British army :

Stations.	Mean strength.	No. treated.	Deaths.	Ratio of cases per 1,000 of mean strength.
Gibraltar.....	33,131	176	116	5.3
Malta	21,172	129	91	6.0
Bermuda	11,224	100	54	8.9
Nova Scotia and New Brunswick..	26,806	149	111	5.5
Canada.....	90,456	524	327	5.7

Some of the conclusions to which M. Jules Rochard arrives are here so apt that we quote them, omitting those which refer more particularly to sea life :

VI. Warm countries, regarded as a whole, exercise a bad influence upon the process of tuberculization, and accelerate its course.

VII. Those situated under the torrid zone (warm countries properly so-called), especially partake of this sad prerogative, and a residence there should be positively interdicted to consumptives. The unanimous opinions of the physicians-in-chief of our colonies and of the English colonies ; the comparative statistics of colonial troops of the regiments of Europe in the two countries ; the frequency of phthisis in our inter-tropical stations, and in English governments situated under the same latitude ; a multitude of special observations demonstrate it in the most positive manner : the examination of each locality in particular confirms it.

VIII. Most warm countries situated out of the equatorial zone,

are also prejudicial to consumptives. A few places upon the confines of that region, and concentrated in a narrow space, are exceptions. They owe this to local conditions.

IX. The first period of phthisis is the proper time to advise emigration, from which good results may be expected.

It is to be borne in mind that the men, upon whom all of these observations were made which form the basis of these deductions, were picked men. They had undergone careful and complete examination before they were admitted to the service, and the simple fact of manifesting any tendency to phthisis would have caused them to be rejected. Moreover, the diet, clothing, hours of labor, mode of life, and general hygienic influences are, as nearly as practicable, the same for all, so that for comparison they seem to possess the most desirable conditions. We are justified, from all this evidence, in the belief that the opinions of M. Rochard, enunciated in the propositions which we have quoted, are correct; and that moist and warm climates are unfavorable for persons of a phthisical tendency. Dr. Coolidge's three propositions, probably, very nearly express the truth with regard to the influence of climate on these patients, and should be borne in mind by all who are consulted as to the proper place for the residence of such persons. The pupils of the late Dr. Drake are aware that he held similar opinions, the result of his acute observation. Fort Snelling, in the northwestern region (Minnesota, if we are not mistaken), is the region which he believed to be the most desirable. To our own mind there is nothing but sadness suggested by a consumptive person making his way to Florida for the sake of its climate.

Of the interesting facts contained in the other portions of the volume we shall hope to speak hereafter. Meantime, we beg leave to suggest, that a similar work prepared from the records of the medical bureau of the Navy, would be of great value to the profession, and a credit to the Government.

PROCEEDINGS OF SOCIETIES.

NEW YORK PATHOLOGICAL SOCIETY.

[Reported for the MONTHLY by E. LEE JONES, M.D., Secretary.]

July 8th, 1857. The President, Dr. J. R. Wood, in the Chair.

Dr. Clark exhibited a *calculus* that had been discharged from the lumbar region, and which was sent to him by the patient's

physician, Dr. Buck, to determine its nature. Five such *calculi* had been discharged during last Winter. Dr. Clark stated that this patient also had stone in the bladder, and showed several fragments passed after the operation of lithotripsy. He had examined the composition of these latter, and had detected, as yet, only triple phosphate and urate of soda. Oxalate of lime had not been discovered, but as the analysis was not completed, he could not deny its presence. He was led to look for this as an ingredient of the calculus, from the microscopic character of the urine—numerous octahedral crystals of the oxalate being seen entangled with pavement epithelium from the bladder. Pus was also detected in the urine, indicating catarrh of the bladder. The patient, when but five years old, had symptoms denoting the passage of calculi into the bladder. At 17, after having discharged a number of these through the penis, he quit work and sought medical advice. He had had several attacks of "Nephritis," which subsided always on the escape of a calculus. The first one passed from the lumbar region, was somewhat less in size than a pea, and was discharged through the tract of a seton. The patient suffers from cough, which, in the absence of any of the physical signs of tubercle, Dr. Clark supposes to depend on that form of bronchial irritation which may accompany a cachectic condition, of whatever kind.

Dr. Wood remarked that when he first saw the case, he thought he could detect deep seated fluctuation in the region of the kidney. Accordingly he introduced a deep seton, which had the effect not only of liberating the matter collected there, but also of giving exit to the five calculi referred to. Dr. Wood represented the sufferings of the patient as having been intense.

Dr. Buck stated that the case first came under his observation three years ago. The patient had then been suffering for three months past, with symptoms denoting the presence of a foreign body in the bladder, these symptoms having been preceded by others indicating the passage of a renal calculus. He sounded in the usual way without detecting any stone, but on introducing the Brise-Pierre, he found one and crushed it. This operation he repeated three times, after which the patient experienced almost complete relief. Since that period Dr. Buck has treated him from time to time in a similar way, but his condition is now rather unfavorable. He is, however, a man of great courage, and generally manages to keep at work. Lately Dr. Buck performed lithotripsy four times, and in one instance a fragment lodged in the urethra; it was found near enough the

meatus to permit of removal by the forceps. At the present moment the bladder is probably free from any foreign body. The operations have generally been attended with severe pain, which, however, has always subsided on removal of the instrument. Dr. Buck had seen two cases similar to the one just related. The first was that of a young lady, who was subject to attacks of nephritic colic on the right side; there was no pain below the region of the kidney. The other instance was that of a young man, who had been under his observation about two years. The symptoms were marked, and the ureter seemed distended at the region of the pelvis. Dr. Buck was unable to predict what would be the final result. Whilst in doubt, he met Prof. Jackson, at Baltimore, who told him that he had once had a patient suffering with the same train of symptoms, and in whom, after the lapse of two years, the stone made its descent into the bladder. The same termination occurred in Dr. Buck's case. The patient, whilst at stool, observed that the urine suddenly stopped flowing; and, on examination, it was ascertained that a calculus, about equal in size to a large cherry stone, had lodged in the urethra.

Dr. Wood inquired whether any members of the Society had ever known a communication to exist between the kidney and the external parts, as in the present case? He was of opinion that urine had made its escape through the fistula, and considered that the patient owed his life to the free exit which had been made for the pent up matter.

SPECIMEN NO. 2. *Dr. Clark* presented a specimen at the request of *Dr. Wood*. It consisted chiefly of the sphenoid bone, and adjacent parts, including the several foramina through which the cerebral nerves make their escape from the cranium. The bone was degenerate, and was the seat of a tumor, which filled up the sella-turcica. The degeneration was most marked on the left side, where the nerves go to the head and face. The tumor was of a similar nature to one *Dr. Clark* had met with some time ago, and was what had been denominated the "Recurrent Fibroid" tumor, a growth which he believed had all the character of malignant disease. Under the microscope small ovoid cells were revealed—some with single, others with double nuclei; fusiform cells, and fibres. There was also reason to believe that the nerves which passed through the diseased mass, had undergone the same degeneration. The condition of the nerves on the two sides was as follows:

1st pair. Not seen in the specimen, but were not diseased.

2d. On the left side the nerve ran through the tumor ; that of the right side was less involved.

3d. Both the nerves penetrated the diseased mass.

4th. Both the nerves penetrated the diseased mass.

5th. Were divided at the point where the casserian, or sympathetic ganglion was attached; both of them, however, running through the substance of the tumor.

6th. Not found, but were probably involved on both sides.

7th. Left nerve ran through the mass, the foramen being surrounded by disease ; the right nerve seemed free.

8th. Left entered the mass at its edge ; right uncertain, but the foramen was not diseased.

9th. Left entered directly the mass ; right was cut short, but was probably free.

The meninges lying upon the medulla oblongata were thick and vascular, though not very firm. Dr. Clark was unable to say whether the morbid deposit was greater on the right or on the left side.

Dr. Wood thought that the greatest amount of deposit was on the left side.

Dr. Clark. On removing the brain there was found softening of the medulla oblongata, the corpora pyramidalia being softened to the depth of a quarter of an inch. This was most marked on the right side. Effusion existed about the whole of the medulla. Dr. Clark then read the history of the case, and remarked, in conclusion, that he thought it interesting, as illustrating the physiology of the cranial nerves.

Dr. McNulty inquired more particularly concerning the paralysis of the tongue and pharynx.

Dr. Clark thought that the muscles of the tongue, larynx, and surrounding parts, were all affected, and had lost their coördinating power.

Dr. Finnell next presented five specimens. The first was a uterus removed from a woman 40 years old, who died of "unavoidable hæmorrhage." Labor began on the Sunday evening previously, and the "pains" continued without interruption. The physician felt the membranes protruding ; broke them, and gave exit to the water and blood. He then found the placenta to be the presenting part, and, turning the child, delivered by the feet. Bleeding, however, continued, and the woman died on Monday morning. The uterus appeared healthy, nothing deserving notice, except that the follicles about the os tincæ were enlarged and distended with mucus.

The second specimen exhibited a gun shot wound made by a musket ball. The ball entered four inches to the right of the umbilicus, and passed downwards and forwards to the iliac bone of the opposite side, perforating the intestine at six or seven points, and also the mesentery at two points. The patient survived one hour. The bullet, which was shown, was flattened where it had been driven against the bone.

The third specimen also showed the effects of a gun shot wound, the points of entrance and exit being the sternum and axilla. The interesting feature in this case was a wound of the right ventricle of the heart, unaccompanied by wound of the pericardium. The pericardial sac was filled with blood.

The fourth specimen was somewhat similar to the last, the parts wounded being the sternum, vertebral column, and thoracic viscera. Fragments of a vertebra were found in the thorax, which made it probable that the bullet had entered behind and passed forwards.

The fifth specimen was removed from a boy aged 3 years and 8 months, commonly known as the "Bearded Boy." He was ill but half an hour before he died, and complained principally of a sensation of tightness and constriction of the chest. The organs exhibited were the heart, liver, and kidneys. Attached to the right kidney was a large mass, which externally, and on section, had all the appearances of soft cancer. The child, when a year and a half old, began to grow rapidly, and ate and drank to excess. He would indulge freely in water, drinking, it was said, two gallons by day, and the same quantity by night. The urine was abundant in proportion. The arms, breasts, shoulders, and genitals were covered with hair, the latter organs being well developed. The disease of the kidney which the autopsy revealed, had never been suspected during life. The stomach was found greatly distended, and Dr. Finnell was inclined to regard this as the cause of death.

Dr. Wood asked whether in the case of wound of the intestines, much blood was found in the cavity of the abdomen.

Dr. Finnell replied in the negative.

Dr. Wood inquired what organs were wounded in the third case related.

Dr. Finnell was unable to add any further particulars, except that the lung was wounded. *Dr. Finnell* was obliged to make the post mortem rather hastily.

At the request of the President, *Dr. Buck* gave the following

account of the cases of gun shot and other wounds, which had recently been admitted to the New York Hospital.

CASE 1. Patient a boy 12 years old. A musket ball entered near the crest of the ileum, and passing upwards and inwards along the bone, escaped from the body, and was afterwards found, much flattened, in the child's pantaloons. Little blood was lost. At noon, on the day following the accident, the child complained of pain in the head, and growing rapidly worse, died the same evening. At the autopsy the soft parts were found much torn. Death seemed attributable to excessive reaction.

CASE 2. The ball traversed the upper part of the thigh, from behind forwards, and somewhat upwards. The bone escaped injury, but there was reason to suspect that the sciatic nerve was wounded, as the patient suffered from tingling in the sole of the foot.

CASE 3. Was a compound fracture of the patella, the joint being freely laid open.

CASE 4. Compound fracture of the tibia—the ball went through, shattering the bone.

CASE 5. Secretary failed to report.

CASE 6. Ball entered inner side of limb, breaking the patella, and remaining concealed in the soft parts.

CASE 7. Was a flesh wound of the leg.

CASE 8. In this case there was an incised wound of the scrotum on the right side, exposing and wounding the testicle. Nothing further was discovered on first examining the wound, and it was simply closed with a few points of suture. Shortly after, however, the patient was attacked with vomiting, pain, and other symptoms, which led to a more careful examination, the result of which rendered probable the existence of a strangulated hernia. In favor of this opinion was the fact that the man had worn a truss during two years past; the inguinal canal, also, could be felt moderately distended by a tumor, partially reducible. There was some doubt, but an operation was considered advisable, and was performed, when it was ascertained that the tumor consisted only of a thickened hernial sac, the contents having retreated into the abdominal cavity. The sac was the seat of an incised wound on its posterior aspect; and clots of blood could be detected in the peritoneal sac, which led to the suspicion that some artery in the neighborhood had been wounded. The patient died, and at the autopsy the ileum was found to have been wounded two feet from the caput coli. There were four incisions, or rather two pairs, the distance between them being two inches. It was evident

that the intestine had been wounded in the sac. There were marks of extensive peritoneal inflammation, and a considerable amount of extravasated blood existed.

CASE 9. Was a penetrating wound of the abdomen, the instrument having entered on the left side, between the tenth and eleventh ribs. Three inches of omentum protruded through the opening. The wound was enlarged, and the finger being introduced, detected the margin of the spleen; the apex of the heart could also be felt beating against the diaphragm. The patient's condition was regarded as favorable.

CASE 10. This was another case of stabbing. The wound was on the left side, between the seventh and eighth ribs. The finger could be passed into the chest. There was no emphysema and no expectoration of blood; but the lung was probably wounded, and was collapsed, leaving about an inch between the lung and the parietes of the chest.

CASE 11. Wound of the right thigh, the ball traversed the popliteal space, and entered the opposite thigh, wounding the popliteal artery. An extensive incision was made along the edge of the semi-membranous muscle, and the artery secured by a ligature. It was found nearly completely divided.

Lastly, Dr. Buck mentioned a case where the liver was wounded, and the patient lived two hours.

Dr. Finnell exhibited a bullet that had been discharged from a gun shot wound of the thigh; it came away spontaneously, and was found in a poultice. The ball in entering carried with it a portion of bed clothing, which Dr. Finnell thought had prevented his detecting its presence with the probe.

Dr. Buck observed that most of the wounds he had seen at the hospital had been made by small balls.

Dr. Gardiner inquired whether it was considered a good practice to make a prolonged search for the ball.

Dr. Buck replied that the practice at the New York Hospital is not to make more than a moderate exploration of the wound.

Dr. Gardiner presented a hollow, membranous cast that had been discharged from the uterus. No placenta nor embryo were attached, and there seemed no evidence that it contained an ovum.

Dr. Clark remarked that the specimen was probably an embryo, as several doubtful cases have been shown to be such on microscopic examination.

Dr. Harris exhibited a specimen showing ulceration of the mucous

membrane of the larynx. The patient had had typhoid fever at the Marine Hospital, and whilst convalescent was attacked with dyspnoea, for which tracheotomy was performed. There was a greenish patch on the base of the tongue, which appeared to be gangrenous, and had been so regarded during life. The small intestine and ileo-cæcal valve were also the seat of ulceration.

Dr. Harris next presented a cirrhotic liver, and a heart having a patulous condition of the mitral orifice; they were removed from a drunkard who, during life, had albuminous urine and anasarca.

Dr. Harris also showed a specimen of black vomit, obtained from a patient who had yellow fever at the Quarantine Hospital.

EDITORIAL AND MISCELLANEOUS.

MARSHALL HALL is dead. There are few men among the physicians of England whose names are more familiar to the profession of the whole world, and there are few whose death will be a greater loss to humanity. Entirely devoted to scientific pursuits, his investigations, always marked by originality, had for their end the benefit of his fellow men. His mind was not content with the simple discovery of truths, but strove to turn them to good account, to give to them some practical result. It was this peculiarity, as well as his long and eminent career, that has made his name a household word. And such it must continue to be. His last contribution to the knowledge of his fellow men,—viz: the series of rules drawn up by him for the treatment of drowned persons, and known as the Marshall Hall method,—promises to make his fame still greater; and many will yet owe their lives, as many already do, to his discoveries and wise deductions from them.

The last, and we believe the only visit of this savan to this country, was in 1853-4, and was made in the pursuit of health, as well as with the desire to see America. At that time we had the honor of meeting him repeatedly, and were always interested and instructed by his conversation. He was not a talker, but rather disposed to reserve and silence. But when we touched upon those scientific subjects to which his life was devoted, he warmed up with enthusiasm, and the assurance of a common interest in those pursuits and investigations drew him closely to one. We have reason to know that the

high regard expressed for him by the profession in this country, was grateful to him not so much because it touched his vanity, as that it assured him that his labor was appreciated.

At the time of his visit to this country, he was endeavoring to devise an improved method of opening the trachea in those cases in which it became necessary, and especially for the relief of epilepsy. The enthusiasm with which he investigated every case which promised to be of use to him, will be remembered by all who witnessed it. The results of those labors were not so great as he had hoped they might be, but with true wisdom, instead of vainly regretting this, he employed himself in new directions.

The announcement of his death is made in the *London Lancet* of the 15th of August, and with such particulars concerning him as will interest our readers. We therefore copy from that journal, only protracing our own remarks to say that he will be sincerely mourned by the medical profession of America.

Death, that most unsparing of tyrants, has exacted from the greatest physiologist of the age the last debt of nature. Slowly, surely, and relentlessly, disease has been undermining the earthly tabernacle of a mind which, for vast powers, high purposes, and indomitable energy, has found no superior in its native land in the present half-century. On Tuesday last, the 11th inst., Dr. Marshall Hall died at Brighton, aged 67 years.

It is impossible to record this melancholy event without feelings of the deepest sorrow. The loss is one which all must feel most keenly who have a reverence for high endeavors, for earnest devotion to science, and for all the sterling qualities which can adorn a man. Science has lost the worthiest of her sons, medicine has lost a great master, and philosophy a great thinker. The clear and vivid intellect of this celebrated man has steadily and successfully risen superior to the depressing influences of disease for the last fifteen years. Even during the present year, when confined to one room, his chamber has been a scene of intellectual activity. Physical debility, which robs most men of their power of thinking and reasoning, had not dimmed the brightness of his wonderful mind. Clear and penetrating, and impelled by a wide philanthropy, the last contribution of Dr. Marshall Hall to science has been a preëminently useful one to the cause of humanity. It is thus that great men should die. There is a grandeur in such a life-end, to which the mere external grace of a falling Cæsar is not for one moment comparable.

Dr. Marshall Hall was born at Bashford, in Nottinghamshire, in the year 1790. His father was a manufacturer, and a man of no small capacity and information, and had the merit of being the first person to perceive the value of chlorine as a decolorizing agent, and applying it on a large scale. The gifts of intellect were bestowed with no sparing hand in this family. The father and two sons fully

vindicated their claims to high intellectual endowments. But Dr. Marshall Hall has eclipsed his less brilliant relations. What in them was acumen and sagacity, was developed in him into genius. There was in him that rapid and far-searching intellectual vision which travels into regions far beyond the common ken of man, visible and appreciable only to the eagle glance of an almost prescient inquirer.

The history of such a man cannot fail to present numerous points of interest. The investigation of the rise and progress of a mind which has ever been foremost in the ranks of science, must afford many good and useful lessons. No fitful glare can be recognized in this life—no charlatanic attempt to pluck a crown of laurels which was not deserved; but a stern, conscientious, and faithful continuance of patient scientific toil, and the solid reward of a vast reputation.

The first step in Dr. Marshall Hall's education was taken at Nottingham Academy, then conducted by the Rev. J. Blanchard. From this school he went to Newark, where he acquired some elementary medical and chemical knowledge. But the first salient point in the life of Dr. Marshall Hall was his matriculation at Edinburgh University, in the year 1809. For a vigorous and apt mind, no better school could then have been chosen. In the present day it is hardly possible to realize the enthusiasm which inspired Edinburgh at that time. There were giants in those days. Enthusiasm, indeed, is almost too tame a word. There was a furor, an excitement produced by the united influence of a complete galaxy of talent. It was impossible but that such men as Cullen, Home, Rutherford, Gregory, Hamilton, Bell, and Barclay should kindle in the ardent minds of a vast concourse of students a flame which should burn with answering brightness to their own. From the school of that time we know many great men have sprung. It is unnecessary to particularize names which are "familiar in our mouths as household words." In that genial atmosphere, then, did Marshall Hall first imbibe that enthusiastic love of science which has been his most marked characteristic. With youthful impetuosity he plunged into the study of chemistry. Not content with merely assimilating the accepted doctrines of the science, he boldly endeavored to push its boundaries farther. With wonderful power of generalization for so young a man, and with such small materials as then existed for the purpose, Dr. Marshall Hall pointed out that there was a grand distinction between all chemical bodies, which ruled their chemical affinities. He showed that this distinction was the presence or absence of oxygen. That oxygen compounds combined with oxygen compounds, and compounds not containing oxygen with compounds similarly devoid of that element; and that the two classes of compounds did not combine together. He believed that this general law would elucidate other chemical doctrines, and might prove valuable in the prosecution of still more recondite principles. But a mind of such soaring aspirations was not likely to confine itself even to such a comparatively wide field as chemistry. The vast domain of medicine was before our stu-

dent, rich in unexplored regions, abounding in all that could excite his eager spirit of inquiry, and reward his love of definite results. It was exactly at this period in the history of modern medicine that physicians were taking stock, as it were, of their old principles. Morbid anatomy, pursued in close connection with clinical medicine, was showing the defects of diagnosis. With the sagacious eye of one who was capable of seeing that the great necessity of the day was a science of diagnosis, Dr. Marshall Hall threw himself into the prosecution of this immensely important department of medicine at once. Here again we find fresh evidence of his eminently progressive spirit. No mere systematizing of what other men had gathered, but an original and comprehensive treatise resulted from the labors of his student life and early years in the profession.

In 1812 Marshall Hall took his degree of M.D., and shortly afterwards was appointed to the much-coveted post of house-physician, under Drs. Hamilton and Spens, at the Royal Infirmary of Edinburgh. In the following year we find Dr. Hall lecturing on the Principles of Diagnosis to a class, amongst whom were Dr. Robert Lee and Professor Grant. It was from this course of lectures that the treatise on Diagnosis, which was first published in 1817, took its origin.

In 1814 Dr. Marshall Hall left Edinburgh, after a residence there of five years. Great as was the individuality of this remarkable man, we cannot but point out that he was reared in a great school, taught by great men, and infected with an enthusiasm which pervaded, in some degree, all who came within its magical circle. Before entering upon his career as a private practitioner, Dr. Hall determined to visit some of the continental schools. We find him, therefore, shortly after his departure, successively at Paris, Berlin, and Göttingen. The journey was made partly on foot, and armed. At Göttingen Dr. Hall became acquainted with Blumenbach.

In 1815, Dr. Marshall Hall settled at Nottingham as a physician, and he speedily acquired no small reputation and practice. After a time, the appointment of physician to the General Hospital there was conferred upon him, and in that sphere he labored until his removal to London, about ten years after his first settlement at Nottingham. Of his work on Diagnosis it is almost unnecessary for us now to speak in terms of praise. Comprehensive, lucid, exact, and reliable, this work has, in the main, stood the test of forty years' trial. A better has not been produced. It was at this period of his career, too, that Dr. Hall made his researches into the effects of the loss of blood, the result of which was embodied in a paper read before the Royal Medical and Chirurgical Society in 1824. This paper and another in 1832, detailing Dr. Hall's "Experiments on the Loss of Blood," were published in the "Transactions of the Royal Medical and Chirurgical Society." It is hardly possible to overrate the importance of these inquiries. They revolutionized the whole practice of medicine. A new light broke in upon the medical world. A distinction, not recognized before, was drawn between inflammation and irritation. It was pointed out that delirium and excitement were by no

means necessarily declaratory of cerebral or meningeal inflammation, or even congestion. Loss of blood was shown to be at the root of much that had passed before for various grades of inflammation. Practical rules were educed both for treatment and diagnosis. It was shown that active inflammation produced a tolerance of bleeding from a free opening in the upright posture; and the rare merit of supplying at once a rule of treatment and a rule of diagnosis was Dr. Marshall Hall's. Other works came forth from his pen about this time, for his mind was teeming with ideas, and his activity as an observer was unparalleled. It is hardly possible to enumerate all, but in 1827 came the "Commentaries upon various Diseases peculiar to Females"—a work which may still be consulted with advantage.

It was in 1826, that Dr. Marshall Hall sought this great metropolis as the umbilicus of the world. So active and earnest a mind could not find enough to satisfy its eager cravings in a provincial town. It was here, in this mighty city, that he determined to measure himself again with numerous competitors, and to win, if possible, all the honor and all the rewards that fortune can give to those who woo her stoutly. The mind of this great man was essentially metropolitan and liberal. A fair field and no favor, and victory to the strongest, were the characteristics of his mind.

The next onward step in Dr. Marshall Hall's career was a series of researches into the circulation of the blood in the minute vessels of the batrachia. A great step in physiology resulted from these. It was shown that the capillary vessels, properly so-called, are distinct absolutely, both in structure and function, from the smallest arteries or veins; that the capillaries, or *methamata*, are the vessels in which the nutritive changes in the economy are carried on.

But the great source of Dr. Marshall Hall's honor, the basis upon which his fame must rest in all time to come, was yet undeveloped; his paramount claims to the admiration of his contemporaries and of posterity consists in his discoveries concerning the nervous system. Like all really important discoveries in natural science, those of Dr. Marshall Hall have had great practical effects. The soundest theory has been shown to be the best foundation for practice. That stupid heresy, that there is a vital distinction between the practical and theoretical man, was never more completely disproved than in the case of Marshall Hall. But we must endeavor to trace the progress of his researches. While engaged on the Essay on the Circulation of the Blood, it happened that a triton was decapitated. The headless body was divided into three portions: one consisted of the anterior extremities, another of the posterior, and a third of the tail. On irritating the last with a probe, it moved and coiled upwards; and similar phenomena occurred with the other segments of the body. Here, then, was a great question. Whence came that motor power? To set at rest that question, to solve that problem, has been the great labor of Dr. Marshall Hall's life.

The establishment of the reflex functions of this spinal cord; in

short, the whole of the excito-motor physiology of the nervous system is the sole work of Dr. Marshall Hall. And not only this, but he has shown that there are in reality THREE great classes into which the various parts of the nervous system resolve themselves ; the cerebral, or sentient-voluntary ; the true spinal, or excito-motor ; and the ganglionic. This was the real unravelling of that perplexed and tangled web which none had before been able to accomplish. The true idea of a nervous centre could never be said to have existed before the time of Marshall Hall. The ideas of centric and eccentric action, of reflexion, &c., so necessary to the comprehension of nerve-physiology, were unknown before the labors of this great discoverer. But these physiological discoveries were not mere barren facts. How rich a practical fund of therapeutical measures naturally follows the physiology and pathology of the excito-motor system, every well-informed physician can testify. Two departments of medical practice have gained incalculably. The success of Dr. Marshall Hall in the treatment of nervous diseases was almost entirely the result of a rigid application of his own physiological discoveries to their pathology and therapeutics. Obstetricians have found their art elevated more than any other branch of medicine. In the place of uncertain and empirical rules, there are now definite and scientific principles upon which to fall back, with the unhesitating assurance that they will stand in good stead. The most complicated of all physiological acts, viz : the act of parturition, has, by the aid of the excito-motor system, been unravelled and reduced to beautiful harmony, if not simplicity. In like manner, many of the diseases of pregnancy are explained and illuminated by the same physiological knowledge. Innumerable symptoms of other diseases are rendered intelligible and rational, which before were obscure and empirical. But to follow out the influence of Dr. Marshall Hall's discoveries through their numerous and important ramifications would be almost to write a volume on the principles of medicine. It is impossible to say when we shall cease to find some new and important application of his discoveries to the great art of healing.

We cannot pass by this period of Dr. Marshall Hall's life without remarking upon the disgraceful treatment he received from the Royal Society. The days of persecution had happily passed by, but the day of dull obstructiveness still remained. The Royal Society thought Dr. Hall's memoir "On the True Spinal Marrow and the Excito-Motor System of Nerves" unworthy of publication ! So much for the acumen of this Society. A very different verdict has, however, been given since by the great body of scientific men ; and the Society, which formerly received this great man's contribution coldly, now mourns the loss of its brightest and most illustrious member.

Since the promulgation of his researches upon the nervous system, Dr. Marshall Hall has been principally occupied with extending, applying, and developing them in every possible direction. The admirable success with which he indoctrinated the profession at large with his views must be attributed as well to his native lucidity as to their inherent truth.

During the time of Palmer's trial, it occurred to Dr. Hall to institute a physiological test for the recognition of strychnia. As if to show the absolute correctness of his views, and how unlimited were the number and nature of the scrutinies they would bear, he found that a frog, immersed in water containing the $\frac{1}{30000}$ part of a grain of strychnia, would, in process of time, be thrown into tetanic convulsions. For the details of these experiments we must refer to the *The Lancet* of last year. The physiological test was found to be far more delicate than the chemical. Here was an instance of sagacity and precision of thought which would have done credit to any man in the flower of his age.

The last and crowning effort of Dr. Marshall Hall in the cause of science and humanity has been his discovery of what is now universally known as the "Marshall Hall Method" of restoring asphyxiated persons. How completely and irrefragably he has proved the inutility and danger of the practices hitherto in vogue for the resuscitation of asphyxiated persons! Space prevents us from going into the theoretical details of Dr. Marshall Hall's method; but our columns have, for any time these last six months, contained overwhelming proofs of its *truth* and adaptation to practice. It is pleasing to find that this last labor of a great mind has been a labor of love, something added to the stock of human happiness, something taken away from the bitterness of life. It is singular enough that in the very place where Marshall Hall has drawn his last breath, two cases have lately occurred illustrating the superiority of the "Marshall Hall Method" over the empirical rules of the Royal Humane Society. In one case of drowning the warm bath was administered; in another, the "Marshall Hall Method" was resorted to: in the first case death was the result; in the second, restoration to life. It is also remarkable that in this number of our journal should be recorded three more examples, illustrative of the successful application of the "Marshall Hall Method" of treatment. It is curious, too, that one of them should have occurred at Nottingham.

In the practice of his profession, Dr. Marshall Hall was very successful. He linked himself early and resolutely to a great subject, and rose into fame upon his development of it. He realized an ample fortune as the reward of a life of unremitting toil. We do not mean to imply that competency was hardly earned under such conditions. Such a man would have been less than happy in a different sphere. Labor was to his restless and indomitable spirit a necessity. Even now, when we are recording the death of this illustrious and lamented physician, there is a volume in the press,—a recent effort of his prolific mind; and until within two months before his dissolution, the mental energies of this extraordinary man were engaged in preparing for publication, in *The Lancet*, a series of papers, entitled, "The Complete Physiology of the Nervous System."

It is somewhat remarkable that Dr. Marshall Hall never held the office of physician in an hospital in London. He was only physician to a dispensary for a short time. He lectured at the Aldersgate-

street and Webb-street School of Medicine, and also at St. Thomas's Hospital Medical School. He was a candidate for the Professorship of Medicine at University College upon one occasion; but owing, it is believed, to some improper influences, matters assumed such an aspect as to induce Dr. Hall to retire from the field.

We have thus far considered Dr. Hall as a man of science. In other relations of life he was equally deserving of our highest respect. As a politician, he was liberal in the highest degree. He was a strictly moral man, and was deeply imbued with a sense of the obligation of a *practical* cultivation of religion. That which he thought right to do, he *did*, with unswerving honesty and courage. All subterfuge, trickery, quackery, and guile, were utterly foreign to his nature. So simple and childlike was he in disposition, as hardly to be able to imagine in others the guile which had no home in his own breast. He was a kind husband, a most indulgent father, and a faithful friend. He married, in 1829, Charlotte, second daughter of Valentine Green, Esq., of Normanton-le-Heath, Leicestershire. Mrs. Marshall Hall's maternal grandfather was M.P. for Shaftesbury, and son of Dr. Cromwell Mortimer, physician to the prince of Wales, father of George III. Throughout the protracted illness of Dr. Marshall Hall, the assiduous, devoted, and unremitting attentions of an affectionate wife were probably never surpassed. This testimony is due from personal observation of the fact. The deceased has left one son, who has relinquished the profession for the rural life of a country gentleman.

We must now close our notice of one over whose name we would fain linger. Melancholy as it is to say he *was* amongst us, our sorrow is stayed by the reflection that he did not live in vain. All that a grateful profession has to give to his memory will be given. We shall still think of him with affectionate respect as a Father in medicine, but as a child in the purity and simplicity of his mind. Though no title has adorned the name of the great Marshall Hall, we who are left behind will esteem him as one who would have graced rather than have been graced by honors however exalted. The *title*, which he preferred beyond all others was that of the English physiologist.

The mortal remains of this distinguished man were, on Wednesday last, removed from Brighton to Nottingham, where, we believe, a post-mortem examination has been made by his brother-in-law, Mr. Higginbottom, his nephew, Mr. Higginbottom, Jr., and Dr. Ransom, physician to the Nottingham General Hospital. It is believed that the death of Dr. Marshall Hall was caused by exhaustion produced by a stricture of the œsophagus of many years' standing, accompanied latterly, it was considered by many eminent surgeons, with malignant ulceration of the part. Dr. Alfred Hall, of the Old Steyne, Brighton, was one of the chief medical attendants of the deceased in his last illness. Sir Benjamin Brodie had long since pronounced the malady from which Dr. Marshall Hall was suffering to afford no hope of the application of any permanent remedy.

—The course taken by Dr. Uhl in the trying position in which he was placed by Mrs. Cunningham, has given rise to several interesting and important questions as to a physician's duty under similar circumstances. As they are of general interest, we offer these thoughts upon them.

It is a rule with medical men, to keep inviolable all secrets communicated to them professionally—that is, which it has been necessary for them to know in order to save their patient's life or to restore him to health. The decisions of the Courts do not support physicians in this position, but compel them to divulge those secrets when asked for under oath, provided it is necessary for promoting the ends of justice. Notwithstanding this, medical men do frequently and absolutely refuse to communicate their knowledge thus obtained, even when such refusal is followed by personal inconvenience and suffering. It is on this ground that some physicians maintain that Dr. Uhl's course was dishonorable. But the facts in the case do not bring this under the head of professional secrets. It was attempted by Mrs. Cunningham to obtain his services as an accomplice in an offence against property. She desired to obtain the two-thirds of Burdell's estate, which, as his widow only, she could not obtain, by professing to give birth to a child which should be passed off as his heir. If that child lived but an hour, it would inherit the remainder of the estate which did not come to her, and after its death, she would, as the child's heir, receive it, thus obtaining the whole property. It was not necessary for her to make this communication to Dr. Uhl, in order that she might be cured of some disease, or that he might more fully understand how to relieve her from suffering, but it was simply a proposition to him to lend to her for a consideration the use of the facilities and opportunities which, as an honorable physician, he possessed, for carrying out her purpose. It is just such a case as a burglar, unable to pick the lock of a door which he wished to enter for the purpose of committing a robbery, proposing to a servant of the house, for a certain sum, to put the key where he could get it, and to accomplish his purpose. If this servant was an M.D., it would be no professional secret; neither was Mrs. Cunningham's because she made it to a physician. The proposition might just as well have been made to a blacksmith, or tailor, or carpenter, so far as anything appears, if he had been as likely to know where to obtain a baby at the right time and of the right age. The case would have been very different if Mrs. Cunningham had sent for Dr. Uhl a year after Dr. Burdell's death, and told him that she was about to be delivered of

a child, and it was necessary for her reputation that it should not be known. This would have been a confidence of necessity reposed in him, that she might be saved from the consequences of her previous sins, and would, of necessity, be made to a physician, that he might treat her skilfully, and could not as well be made to any one else. Undoubtedly, in such a case, Dr. Uhl would have cared for her, and secured the child its rights ; but, at the same time, would have kept the secret locked in his breast. But, as we have shown, the proposition made to him was widely different, and can in no way be construed into a professional secret.

The only question which remains is as to the course pursued by him after the proposition was made to him. Let us return to the illustration of the burglar and the servant whom he attempts to bribe. After the proposition is made the servant thinks of it, and upon consulting those whose opinion he is authorized to respect and rely upon, it is determined that he shall appear to assist the burglar, who is believed to be very adroit, by placing the key as desired, while officers are so stationed as to identify him, and to secure him just as he puts out his hand to reach the coveted prize. Could any blame be justly laid upon the servant for his apparent connivance with the burglar, in order that he may be detected ? Would it not rather be true that the thanks of the community would be due to him for protecting them from the scoundrel ?

Precisely so are the thanks of this community due to Dr. Uhl for pursuing the course which he did. Prudently consulting with those whose opinion was most reliable, he finds entire unanimity of advice as to the duty which devolves upon him, and goes forward to perform it, with entire disregard of the personal considerations which might well have deterred him from it. He did not urge her to commit the offence, but, we may say, without improperly violating confidence, that he did, for a long time, endeavor to dissuade her from it, and when this was found ineffectual, took measures to prevent her committing it, in such a way that justice could not detect it. Suppose he had done otherwise, what would now have been the condition of affairs. According to the theory of those who say this was his duty, he would have kept profound silence upon the overtures. There would have been no difficulty, we regret to say, in obtaining the services of a doctor who, for a thousand dollars or less, would have done all that Dr. Uhl was asked to do, and the other heirs of Dr. Burdell would, by his agency, have been cheated out of their portion of his estate. We are safe in saying that it would not have been possible

to have detected the fraud. Or if Dr. Uhl had remained in attendance without calling the police to his aid, who would have believed his testimony that the child was supposititious, when Dr. Catlin, the sister, the nurse, the daughters, and the friends, would all have sworn that it was not so, but a true and genuine production. Dr. Uhl's position was indeed a trying one, but he has acquitted himself manfully in it, and the thanks, not only of the medical profession, but of the whole community, are justly due to him for aiding the officers of justice so efficiently, though at so great a personal sacrifice.

— M. Sestier, one of the most distinguished of the young physicians of Paris, died recently of apoplexy. M. Sestier was the author of a valuable work on Œdema of the Glottis, which was published in 1852, and was engaged at the time of his death upon another remarkable contribution to science upon the effects of lightning. A pupil of Chomel and Louis, Dr. Sestier was a partisan of the numerical method. His published works are eminently statistical, and, while they are examples of this school worthy of his illustrious teachers, they show the great labor and research necessary to render works of this kind useful and reliable.

M. Civiale's Munificent Gift.—The profession throughout Europe are fully acquainted with the great services rendered by M. Civiale in reference to urinary diseases in general and lithotripsy in particular. A fact less known, however, is that wards were set apart at the Hôpital Necker, now several years ago, for the treatment of calculous cases, M. Civiale, though not an hospital surgeon, having the care of these wards. (If we are not mistaken, something of the kind exists at the Westminster Hospital.) M. Civiale's services have always been gratuitous, whilst the members of the staffs of all the hospitals of Paris are remunerated, though very scantily. That the practice of lithotripsy has immensely gained by the founding of these wards, and that a great number of indigent sufferers have thus been relieved, does not admit of a doubt; but many difficulties were, nevertheless, thrown in M. Civiale's way by the authorities of the hospital, owing to his unofficial position. Little daunted by these drawbacks, M. Civiale has pursued his career of usefulness; and, anxious that lithotripsy should be officially practised after his death, he has, with the consent of the managing body of the hospitals of Paris and of still higher authorities, founded, at his own expense, a surgery in the Hôpital Necker, remunerated, for the special purpose of continuing the practice of lithotripsy in the wards above alluded to, when the great originator of this valuable operative measure shall have been gathered to his fathers. Thus is the fortune accumulated by lithotripsy made to serve the cause of humanity and the advancement of the operation itself. M. Civiale deserves the thanks and good will of all his professional brethren for this munificent act. — *London Lancet.*